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DOMINION DENTAL JOURNAL

(Official Organ of all Dental Associations in Canada)

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DOMINION DENTAL JOURNAL

Richmond and Sheppard Streets, Toronto, Canada

Dr. Victor C. Mulvey Passes After Short Illness—

Dr. Victor C. Mulvey, 54 years, a well-known Lethbridge dentist, passed away at St. Michael's General Hospital late Tuesday afternoon following a short illness which developed into pneumonia. Dr. Mulvey came to the city from Edmonton, where he practiced his profession for 25 years, some five years ago. He was born in London,

England, and took his university work there. He came to Canada 30 years ago, first to Winnipeg, then went to Edmonton. He was a charter member of Empire Lodge A.F. and A.M., Edmonton, and was affiliated with Lethbridge Lodge No. 39, A.F. and A.M. He was a returned man, having gone overseas in 1914 with the 101st Battalion, Edmonton. He was an enthusiastic art collector and possessed a valuable collection of paintings.

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WILL THE ADVERTISER, whose initials are R. M. and whose ad was published in the October issue under Box 120, kindly let us have his full name and address that we may forward his mail. Box 121, Condensed Ad. Department, Dental Journal.

Is Dentistry Meeting Public Demands?

By A. E. Rowlett, President of the
British Dental Association

The Dominion Dental Journal is proud to welcome A. E. Rowlett, L.D.S., as a first contributor to its 46th volume. Mr. Rowlett has the honour of being President of the British Dental Association, Honorary Dental Surgeon to Leicester Royal Infirmary and Honorary Treasurer of the International Dental Federation.

THE value of a healthy mouth and teeth, and the danger to the whole organism of unhealthy teeth and oral tissues has long been recognized by the public.

During recent years oral hygiene propaganda has taught to children and adults the importance of diet and what we may call home care of the buccal cavity; it has at the same time stressed the necessity of regular attention by skilled dentists, and today the vast majority of the community are alive to the fact that dentistry is one of the most important health services of the nation.

As British Secretary of the Oral Hygiene Commission of the International Dental Federation, I am prepared to say that the message of oral hygiene is being spread by the Dental Profession in every civilized country in the world, and in this work Canada is well to the fore.

The demand is created, or in the process of creation, but what of the supply?

NEED NOT BEING MET

IT IS doubtful if in any part of the civilized world we can say that this demand which has been

created is being fully met. In Great Britain we frankly admit that it is not. In spite of school dental officers, a large panel of dentists for members of approved Assurance societies, industrial clinics, some pre-natal, maternal and child welfare clinics and private practice, for a large section of the inhabitants of the British Isles there is no provision for skilled dental treatment. Two committees of the British Dental Association have this matter under consideration, the joint reports of which will be a comprehensive survey of the whole problem with a suggested solution.



SET HIGH IDEAL FOR PROFESSION

THE dentist is not a producer of wealth for the community like the agriculturalist or the business man; he must be supported by the producers, and in his turn renders good value by his health service to the nation. *Until every member of the community has the opportunity of skilled dental service from the cradle to the grave, the ideal of dental service has not been attained.* Whole-hearted co-operation between the dental and medical

(Continued on Page 4)

There Must be Limits to Free Treatment

from a report by
Manly Bowles, A. R. Ezard
and H. J. Merkeley

*How State medicine operates in Germany,
from a report on Health Insurance read
to the Manitoba Dental Association.*

DURING the past decade or two our profession has become so engrossed in applying new technical and mechanical knowledge and in putting into effect so many new concepts in the field of pathology, bacteriology and related sciences, that we have for the most part failed to note the insidious growth of a new factor in the practice of all the branches of the healing art.

Yet with events moving as they now do in the economic field with greatly accelerated speed, we should without delay fairly and squarely seek to face the issue, and if the avalanche is as irresistible as seems, we should prepare to guide its course, if possible, along a path where it will do not only our profession but the people themselves the least possible harm.

The socialization of industry has gone on apace. We now accept without question the public ownership and operation of civic and dominion transportation systems, the provincial control of the sale of liquor, the operation of the post office by the Federal authorities, and many other like activities.

This control was brought about presumably to effect an economy and prevent exploitation. Other activities in governmental control were inaugurated because the state realized that an educated and healthy people were more likely to be contented and progressive. Thus education was made compulsory to

a certain point, and sanitary laws enacted. It has always been hard to decide just how far the state should go along either path, and even here in Manitoba there is now a controversy centering around fees for the ninth grade.



POOR DEMAND STATE PAY

ONCE the concept is laid down that something is necessary for the well being of people individually, and this idea is accepted by the people collectively, immediately a demand is made that it be put within their reach. Those who can afford it will probably pay from their own funds; by those who cannot afford to buy that service, it is demanded from the state as a right. So we see that gradually health services have increased, and this being the branch we are interested in, we shall concentrate on it.

We now have, to mention only two activities, compulsory vaccination and quarantine. Many others could be mentioned, but these will suffice as examples.

With the acknowledgment of the necessity for governmental control here, the next step was a gradual extension to include accidents, and so workmen's compensation was inaugurated; then mothers' allowances, and old age pensions; outpatient, cancer and V.D. clinics. And the end is not yet.

● WILL PEOPLE DEMAND CARE?

FROM the dental standpoint, we have in Manitoba spent very considerable time and money making the people tooth conscious, and I often wonder just how far we should go. If those unable to pay believe us when we let our zeal for the importance of our profession carry us away, how long will it be before they will as their right demand treatment, and just how far will they expect us to go along the line of restoration?

In other words, we must soon lay down a definite rule, and in education say that for the good of the state it is necessary that every child get education to possibly the eighth grade. In dentistry it will be hard to lay down a definite line; and that is where the conflict will arise when in the future lay control of dentistry arises.

In our economic structure today, resting as it does upon a large wage-earning class receiving low pay, we find there are three things hovering on the horizon and haunting the otherwise contented dreams of the workman: there is penurious old age, unemployment, and sickness. Governmental units, here and abroad, have in varying degrees recognized this, and today the leaders of industry in America have about decided that one way to ward off threatened upheavals is to institute these reforms. And once this idea is widely accepted, we may expect co-operation between labor and capital to put the scheme into operation, whether we will or no.

So it behooves us to lay immediate and definite plans for some acceptable form that we can produce when occasion demands. As a first step we may well examine the workings of certain national

schemes now in operation abroad.

National systems vary widely in the amount of friction engendered in their working and in their social effects, yet most of them work fairly smoothly.

● GERMAN SYSTEM FIRST

THE German system was the first to be put into operation, and is still the most extensive as measured by the number of people affected. It originated in Bismarck's desire to destroy the social democratic influence, to build up national feeling based on gratitude to a generous state, and to solve some of the more pressing problems of poor relief. Time shows none of these policies produced their desired results, and even the attitudes of those involved have changed. In the beginning, insurance societies were organized, and these carried on the health service. These insurance societies were but an extension of pre-existing fraternal benefit organizations, where each member paid certain dues which entitled him to certain benefits. Both the dues and benefits were varied when the societies became the basis for the state insurance scheme, and they have tended more and more to become absorbed into a department of the government just in proportion to the extent the government have had to contribute to the expense of the undertaking.

Since the German system was the first to be put into operation, and has been modified repeatedly ever since, we can very profitably examine it fully to see its trend, and the changed status of the various parties interested, of whom there are four.

First, we have the insurance society formed to carry the scheme, then we have the workman, next the physician, and lastly the state. Now let us trace the evolution in the status of each.

As before outlined, Bismarck inaugurated the sickness insurance scheme to break the social democratic party; so they at first fought the idea, terming it a palliative to soothe working class revolt. But they soon realized that it would be effective whether they willed it or not; so they set about to secure control of its machinery, and this plunged the system deeper into politics than before.



POLITICS ENTER SYSTEM

THE Catholic party also organized a series of societies known as the confessional societies, and these naturally were controlled by the Catholic group or centrist party. So we see the two strongest political groups in Germany in control of and backing the insurance societies.

The next step was to rearrange the membership of societies on territorial as well as functional lines; so they now more nearly approximate government agencies.

The next factor is the insured workman. At first only a comparatively small group were included. But buying votes by extension of inclusion to more groups of workmen was adopted. For once the principle of providing cash and service through insurance is accepted, every logical reason that applied to the first scheme can and

will be urged for extending its scope from factory workers and miners, who were originally included, to commercial employees, agricultural laborers, and clerks, and then their families. These successive steps have already been taken in Germany; so that we have about 44,000,000 Germans receiving cash and medical service under the scheme.



HOW COSTS ARE APPLIED

EACH workman contributes a small weekly amount, as does his employer and the state. The total cost has increased enormously, even in the last few years—that is, from \$112,000,000 in 1913 to \$482,000,000 in 1930—and it is interesting to see the comparative costs of the different services. In 1929 the total income of the societies was \$494,000,000. The expenditures were as follows:

Dental Service	\$19,000,000
Medical Service	98,500,000
Drugs and Appliances	57,000,000
Hospital Care	65,500,000
Other Service, and this includes	
Dental Mechanics	3,500,000
Cash Benefit for the Sick	173,500,000
Weekly Assistance ...	21,000,000
Public Health	2,500,000
Death Payments	5,500,000
Administrative Costs..	31,250,000

Is Dentistry Meeting Public Demand?

(Continued from Page 1)

professions, governmental and civic authorities, assurance and health associations, and indeed all those who have the welfare of the health of the citizen at heart, is indispensable if the question is to be solved.

Finance is the main stumbling block, but many other difficulties must arise, and the conflicting interest of private practitioners and

public dental officers must be satisfactorily and equitably adjusted before a solution is reached.

It is a great and noble task that is set before us, and one worthy of a great profession of a great Empire; it will not be accomplished without sacrifice and unless we remember that important as dentistry is, the welfare of our country must come first.

The Full Denture Problem

By Felix A. French, D.D.S.

MOST of the progress made during the last 15 or 20 years has helped less than 5% of the profession. The other 95% who do the great bulk of the denture work have received very little assistance. The one factor in full denture construction which offers the greatest possibilities for obtaining stability, efficiency and comfort is the one which until recently has been sadly neglected. Reviewing briefly the progress made during this period we find:

Surgical preparation of the mouth to be on a sane conservative basis.

The principles of impression work well understood and techniques highly developed.

Aesthetics rapidly becoming a real art.

Jaw movements analyzed, excellent adjustable instruments at our disposal and techniques for adjusting them to suit each individual case.

Laws laid down for our guidance in developing masticatory surface forms.

When all this was presented to the profession the reactions were varied and interesting. Some stated frankly that the techniques were too long and complicated and that they could not afford the time in view of the fees they were receiving for dentures.

Others said the instruments and other equipment were too expensive. Others admitted that much of the theory advanced was too deep—it was over their heads.

It is a fact today, that less than 5% of the profession are using adjustable instruments and building dentures along the lines advocated. It would seem then that most of the progress made has helped only the specialist and a few others with select practices.

What of the other 95% who do the bulk of the work? True, they have been helped some in their impression work and perhaps a little in mouth preparation but in the functioning of dentures they have not been helped at all. In fact, with the introduction of anatomically formed posteriors, they have been severely handicapped.



TO COMPLY WITH PHYSICAL LAW

STRANGE as it may seem in this very factor of function lies their greatest hope. In the physical functioning of dentures, that is building them along sound mechanical lines in such manner that they comply with the physical laws involved, lies the greatest possibilities of obtaining stability, efficiency and comfort. This can be accomplished with the minimum amount of effort and the minimum expenditure of time.

In considering the problem of function we cannot fail to note that Nature in all her designs adapts form to function and complies with physical laws. Compare the hooves of the horse with the claws of the hawk or the webbed feet of the

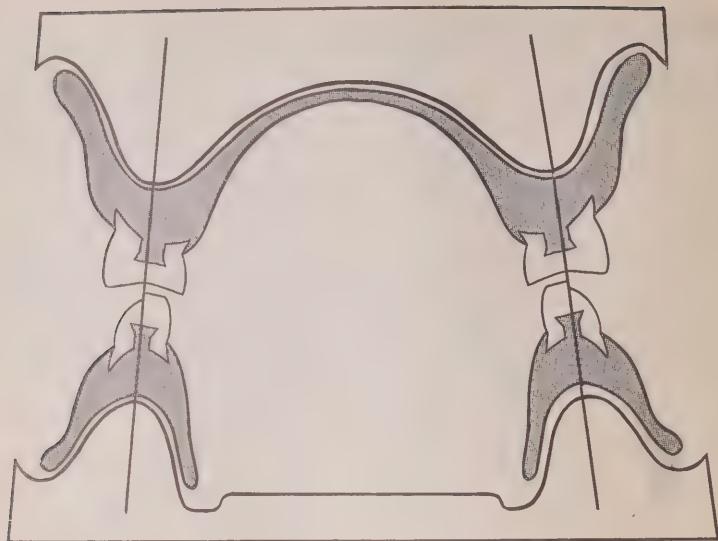


Fig. 1.

duck, the different forms of teeth in different animals.

A stone thrown into the air falls back to earth when the force behind it is expended—law of gravity. If you happen to sit on the free end of a bench the other end flies up and you go down—law of leverage. All the laws that we studied in Physics are exemplified in our everyday life.

● FUNCTION OF DENTURE MAY DIFFER

NATURE designed natural teeth to work under certain conditions, when they are lost we undertake to supply artificial substitutes. Artificial teeth serve two purposes viz. Aesthetics and function. The anterior teeth being visible, primarily influence Aesthetics and therefore should closely resemble the natural in form, arrangement, etc. The posterior teeth are less conspicuous and have to do chiefly with function.

If the functioning of artificial dentures is similar to that of the natural teeth we do well to closely follow Nature's plan. If, on the other hand, the functioning of artificial differs from that of the natural teeth and the differences are so great as to call for some change in order to harmonize form with function and to comply with the physical laws involved, then when we make the necessary changes we are not conflicting with Nature but rather following her own plan.

Let us compare Anatomic and Prosthetic function. Natural teeth were designed to function on roots firmly embedded in bony sockets in such a manner that it is sometimes difficult to remove even a single rooted tooth with the aid of forceps. A whole set of upper or lower artificial teeth are attached to a denture base which merely rests upon the mucosa in such a manner that it may be easily removed by the thumb and finger or a simple thrust of the tongue.

When natural teeth on one side of the mouth are working on a bolus of food it has no disturbing influence upon the teeth on the other side. They do not jump out of their sockets.

When a bolus of food is placed between artificial dentures on one side of the mouth and force applied, the force is transmitted through denture base to the supporting tissues and affects the seating of both dentures. The lower on the other side may jump up or the upper fall down. There is a mechanical principle or physical law operating on artificial dentures which does not apply to the functioning of natural teeth. To comply with this physical law the force exerted on a bolus of food should, in the case of artificial dentures, pass inside the centre of the crest of the ridge. (See figure 1.) When we set anatomic posteriors in such manner as to comply with this law they lie in on the tongue space. (See Figure II.) The logical inference is that this form, designed by

Nature to function on roots firmly embedded in bony sockets, does not meet or comply with the conditions under which artificial dentures function. This is true in other respects. These intercusping, interlocking anatomic forms designed to function on roots embedded in long sockets, in such manner that they resist stresses from all directions, cause denture bases which merely rest upon the mucosa, which is resilient and displaceable, and resists only vertical pressure to skid in all directions. It is this skidding which causes soreness and tissue atrophy under dentures and not vertical pressure.



WHEN JAW LEVELS CHANGE

AS ABSORPTION or settlement takes place the jaws come closer together, in doing so the lower comes forward carrying the lower denture with it, and with intercusping anatomic forms of teeth the inclined planes of the uppers meet the opposite inclined planes

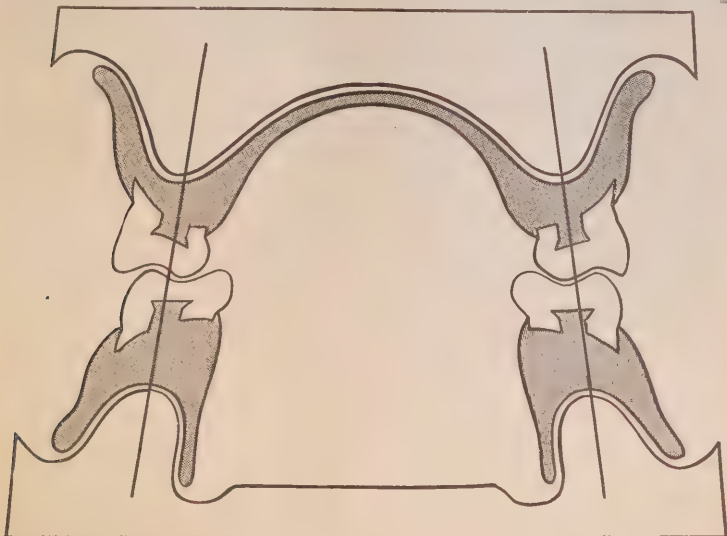


Fig. 2.

of the lowers thus skidding the dentures every time the teeth contact. This is a source of endless trouble and very destructive to supporting tissues.

It becomes quite obvious that anatomically formed posterior teeth do not meet the mechanical or physical requirements of artificial dentures.

If Nature supplied us with artificial dentures instead of natural teeth God alone knows what form they would take. It is clear that the posteriors would be modified in order to harmonize form with function and comply with the physical laws involved. We can, however, use the brains that He gave us in an attempt to meet the changed conditions.

Modified forms must possess the following characteristics:

1. They must meet mechanical requirements.
2. They must be easy running and should not lock or trip.
3. They must be efficient in function.
4. They must be such that bal-

anced occlusions can be obtained.

5. Uppers and lowers must be definitely related.

6. They should resemble the natural in so far as the other characteristics will permit.

These are not mere theoretical considerations. They are facts amply substantiated by clinical evidence.

For some years the author has been hand-carving teeth to meet these requirements. It was tedious work and the finished product may at times have looked somewhat crude but it functioned beautifully. The end results were greater stability, efficiency and comfort, less soreness, less tissue atrophy and less rebasing, with resulting longer service.

During the present year one manufacturer has had the vision and courage to undertake the manufacture of teeth of this type and we now have beauty of form and design added to the other features of smooth function, stability and efficiency.

—F. A. FRENCH.

Book Review

"BACTERIAL INFECTION, WITH SPECIAL REFERENCE TO DENTAL PRACTICE", by J. L. T. Appleton, Jr., B.S., D.D.S., Professor of Micro-biology and Bacteriology, Thomas Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania; 2nd Edition; Publishers, Lea and Febizen; Philadelphia, 1933.

THE primary purpose of this book is to aid the reader to form a comprehensive concept of infection. The writer does not imagine that this can be accomplished by reading alone, clinical and laboratory experience is necessary and fundamental. A Baedeker is a poor

substitute for travel, but few will deny the usefulness of a guide book. What the general practitioner wants to know is how bacteria produce disease and how the host reacts to infection.

Whether or not an invading micro-organism succeeds in establishing an infection depends on many factors. Some of the factors are inherent in the parasite and some in the host. Some of the obvious groups of factors are: (1) No. of bacteria gaining access to the host in a given unit of time. (2) Stage in the life cycle of micro-organism at which it enters the host. (3) Virulence of the parasite. (4) The site at which it enters. (5) Resistance of the host.

Care Observations to Conserve Pulp

By W. L. Hugill, D.D.S.

*More attention will save this
vital tissue.*

THE story of our knowledge of dental caries is very human and at the same time very interesting. When Miller discovered that dental caries was a bacterial disease and that in its progress lactic acid was formed, the treatment of caries, like prosperity, was just around the corner. It was all very simple. So it has been ever since, but still we have dental caries as never before. Just destroy the bacteria with drugs and caries is cured. But it wasn't. Another simple treatment was to neutralize the acid, and the tooth tissue would not be dissolved. The alkaline mouth washes were prescribed in barrellfuls, but without avail. In the nineties both Black and Williams discovered that bacteria grew under a gelatinous plaque on smooth surfaces of teeth and thus prevented the washes from getting in contact with the bacteria or acid. The next step was also simple. Just rub the plaque off with a grit in the hands of the dentist or the patient.

Then followed Oral Prophylaxis, Oral Hygiene, coarse fibrous foods, thorough mastication and frequent trips to the dentist to treat defects in their incipency.

There seems to be a tendency of late to return to the external application of drugs to prevent caries. But the word today is internal medication or diet. Calcium, Phosphorus and Vitamin D. There is little doubt but that the most successful preventive and cure of dental caries is filling cavities of decay. Because each and every method mentioned above has influ-

ence on the control of caries, we believe there is less need of "extension for prevention" as followed in the past.

● CAVITY PREPARATION ADAPTED TO MODERN KNOWLEDGE

A SECRETARY once said at an annual meeting, we should either change our practices to conform to the constitution, or change our constitution to conform with our practices. So, modern dental teaching should be changed to conform with our dental practices or dental practices should be changed to conform with modern teaching. The fact is the dentist on the firing line is not practising what he was taught in dental college.

I am inclined to think the treatment of dental caries has radically changed in the past ten or twenty years, without anyone's attention having been directed to what the changes are, and how they have affected our practices.

What effect has the teaching and practice of Oral Hygiene, Oral Prophylaxis, diet, external medication, internal medication, regular visits to a dentist and periodontia on the treatment of dental caries?

Dentists are today filling small cavities in teeth and have given up the fallacious injunction to children to "wait till the cavity is big enough to fill." This injunction was quite natural if the teachings of our leaders were to be followed, which were—Extend all cavity walls until immune areas are

reached. Besides this, dentists had no small instruments with which to prepare small cavities, and if sound tissue had to be cut out, in making large cavities it became painful, which was a good reason for allowing the bacteria to do the extending, because they did it painlessly.

There used to be little trouble in determining the location of a cavity outline because the smallness of the cavity had nothing to do with it. The main feature was the immune and susceptible areas on the surface. Today it is a real problem to determine the outline of a cavity.

FACTORS TO CONSIDER IN DETERMINING THE OUTLINE

THE dentist should consider well all the factors which enter into the causation of decay and its prevention.

(1) The Dental family history and the personal history of caries are of value in deciding the character of the operations to be performed. In some families even though there be many cavities while young, they yield to treatment and fillings have a degree of permanency not found in others of more favorable appearance. Then again, caries in some families rarely appear before the fifteenth year while in others it begins at the appearance of the deciduous teeth. Caries will cease at the twentieth year in some families and not occur until perhaps the fiftieth year or perhaps not at all. Patients giving a family history of immunity after a certain age, and a personal history of immunity at the same age need not have what are sometimes called heroic operations done for them. The greatest attention in such cases should be given to the prevention of present decay rather than that which may occur in the future.

Such conditions might influence

to a large extent the location of the cavity margins. The physical, mental, and personal habits have a great influence on the character of operations that should be performed. Another important factor is the personal susceptibility to caries.

PREPARING THOSE PEOPLE WHO ARE SPECIAL PROBLEMS

MANY patients apply for dental treatment who are not in a fit physical condition to have ideal dental operations performed, such as in the case of the expectant mother.

A dentist would be lacking in judgment who would ask a frail girl maturing into womanhood to submit to having the outline of many proximal cavities carried through sensitive tissue to bring them to a clearing margin.

Then again there are those who are so weak mentally that it takes careful management to preserve their teeth at all. They think they cannot bear anything in the way of inconvenience. Such patients need the strong controlling force of a man who knows just how to handle them before he may venture to do ideal operations.

The number of cavities and character of the decay present should be considered.

Some patients' teeth are kept perfectly clean apparently without an effort. They eat proper foods and masticate them well, which is a factor in preventing caries. If caries does occur the cavity margins do not require to be extended appreciably to meet areas which are immune.

Next is the location of the cavities. Some have teeth which always seem to have what might be called a scum over them, with cavities occurring in every defect of enamel and on surfaces which would be immune in other mouths.

When decay seems so progressive, cavity margins must be extended until they reach the immune areas of the tooth's surface even though much of the surface must be covered by filling.

● MOUTH APPEARANCE OFFERS A CLUE

THE very appearance of the mouth often helps the operator to choose the character of operation. A certain viscid tenacious saliva, abundant in quantity, usually indicates rapid decay and demands that the outlines of the cavity should be extended far beyond the areas of contact with the other teeth. Many points of white or yellowish-white decay on smooth surfaces especially on labial, buccal and lingual surfaces is indicative of a marked susceptibility and demands free extension of cavity outlines, while if the cavities be dark brown or black in color and are found only in fissures the outlines need not be extended so freely. Because of the difficulty of keeping irregular teeth clean, cavities in such cases should be extended fully. I would like to draw attention to the condition frequently found on the buccal surfaces of the upper third molars usually carious, an area difficult of prophylaxis for the patient due to its anatomical position. It resolves itself into this, in all cases where decay occurs, that part of the tooth's surface, which is not kept clean about the cavity, should be included within its outline.

Other factors which should be considered in determining the cavity outline are:

The success of former operations.

Will the patient perform oral hygiene?

Will he visit a dentist regularly?

Will he have prophylaxis performed for him?

Will he submit to a dental regime?

Are his teeth so sensitive that good operations cannot be made for him?

● TREATMENT OF FISSURES

ONE of the surest ways to conserve the pulps in teeth is by filling those teeth before decay has become extensive, or better still by filling them before caries even begins.

In his "Letter of Explanation About Fissures" Thaddeus P. Hyatt, dental director of the Metropolitan Life Insurance Co., states that "There are 2,500 chances to one that a fissure will decay in less than twenty years." He says further—"Professor C. F. Bodecker also has shown that 2,400,000,000 bacteria can find lodging in the average sized fissure."

Dr. Hyatt also states that "In the examination of over 50,000 cases here in our country and in our present state of civilization, less than one-twentieth of one per cent. are immune to caries, also that these persons who are immune have teeth that are practically free from pits and fissures." Dr. Hyatt very aptly adds, "Please make your own deductions."

● DISEASED OR NEARLY EXPOSED PULPS

TOOTH structure is not saved by inadequate cavity preparation nor is the pulp preserved. Too little attention is given to the caries in the floor of the cavity. Most of the micro organisms of the mouth can thrive with or without the presence of oxygen. If it is impossible to remove all the carious dentine without exposing the pulp, when it is deemed not necessary to destroy the pulp; that is when it is thought there is excellent chances of the pulp living, then it is very necessary that the remaining affected

dentine be treated in a manner that will inhibit the progress of further caries. This is best done by sterilizing the remaining dentine and at the same time placing some agent in the cavity which will allay the irritation and soothe the pulp.

While it is true that in most cases where caries extends to the pulp the removal of that organ is necessitated, there is a possibility of preserving the pulp in some instances, particularly the pulp of young individuals.

TEST PULP OVER PERIOD OF MONTHS

SILVER nitrate may be used extensively in the treatment of remaining carious dentine. When applied to the dentine it forms a hard coagulum which resists caries. The silver nitrate is placed on the carious dentine with a pledget of cotton. It may be precipitated with oil of cloves, and should not be placed by itself in very deep cavities. Over this may be placed an eugenol cement base and then finally the regular cement base.

Such procedure should be recorded and the pulp tested for vitality from time to time over a period of months.

Just here I would like to draw attention to the apparent or seemingly pulp destructive properties of the Silicate cements. It is my opinion that to insert a silicate cement in a cavity which is cut halfway or more to the pulp is inviting pulp destruction, unless the dentinal axial wall is entirely covered by a good varnish, and I would say better an oxyphosphate of zinc cement. Truly, I believe great caution should be exercised in the placement of the silicates in the teeth of children up to fifteen years of age and especially their lower incisors and upper left lateral.

This property of the silicates exists, I believe, due to the lack of a chemical change taking place

when the powder and liquid are mixed in contrast to the mixing of zinc oxide and phosphoric acid.

Generally speaking, the use of Novocain is a dangerous thing in cavity preparation. In eliminating pain it does away with the signals which warn the operator of the close proximity of the pulp. There are times when its use is indicated, but the occasions are rare. The dentist seeking to relieve the patient of pain incident to cavity preparation should employ other methods.

OTHER METHODS OF PAIN RELIEF

A HYPNOTIC administered by mouth is often helpful. These are obtainable as allonal and nembutal 844 which are harmless in the prescribed doses, are non-habit forming and are free from "hang-over" or after effects. Administered 15 to 30 minutes before operation they allay fear and produce a calm which greatly helps the patient and lightens the task of the operator. A topical anaesthetic for sensitive dentine, namely senthesin (Northrop & Lyman) will desensitize very effectively. The dentine should be first dried and then kept moistened with this agent while the bur or stone should be repeatedly dipped into the solution from a dapping glass.

The use of tepid water during cavity preparation with stones, the use of sharp burs and a more extended use of the cutting instrument in a dry cavity will accomplish much in that direction. The use of sharp burs in the preparation of cavities keeps down unnecessary friction, thus preventing thermal shock and consequent pain. The water also keeps down friction. If it is tepid, its temperature will not act as a pulp irritant. It is my observation that dentists in the past have given entirely too little attention to the treatment and conservation of the pulp.

Diagnosis and Treatment

Major Trigeminal Neuralgia

By Charles H. Frazier, M.D., Sc.D.
Philadelphia, Pa.

*From the Neuro-surgical Clinic
University Hospital,
Philadelphia, Pa.*

HAVING given several thousand alcoholic injections and performed over 700 operations on the sensory root of the Gasserian ganglion, I feel a certain intimacy with major trigeminal neuralgia, or tic douloureux, and perhaps a greater intimacy with the subjects of the disease.

It is not inappropriate that I should be invited by your profession to relate my experiences with this problem, since so many patients first consult your members and by them are referred to me. For the opportunities which I have had I feel, therefore, many times your debtor.

May I portray the picture of trigeminal neuralgia as it has been revealed to me by the several thousand patients who have passed through the neuro-surgical clinic. But before painting the picture let me remind you that the disease of which I am speaking, that is, major trigeminal neuralgia or, as it is popularly known, "tic douloureux" or again, "névralgie épileptiforme", is a definite clinical entity. It has just as specific means of identification as typhoid fever or smallpox. By that I mean it is not to be confused with any other form of neuralgia or pain syndrome in the trigeminal distribution.

There are many forms of neuralgia that are not major trigeminal neuralgia, or tic douloureux. There are pain syndromes in the trigem-

inal distribution that may be due to dental sepsis, to sinus infections, to herpes, to systemic toxemias. These are all quite different from the clinical entity under discussion



CLEARING-HOUSE FOR DISEASE

AGAIN, let me remind you that this clinical entity is a relatively infrequent affair, at least infrequent in the experience of the general practitioner. By the mass of material that has passed through the neuro-surgical clinic of the University Hospital one might well gain a false impression in this respect. But it so happens, for various reasons, that this clinic has been a sort of clearing-house for this disease and scarcely a day goes by when we are not confronted with this problem, be it a patient for alcoholic injection, for operation or to be seen in consultation.

What is major trigeminal neuralgia? It is a disease almost exclusively of middle life, and more frequently in the later decades of life. When a patient is sent to me in the thirties with this diagnosis, I am always skeptical. But occasionally I have been convinced from my analysis of the symptoms and from the results of treatment, that occasionally a patient in the thirties may be so afflicted. But the vast majority of our patients are over forty, most of them over fifty,

many in the sixties, seventies and eighties. My oldest patient is in her ninety-fourth year. What effect age may have upon the incidence or the cause of the disease is a mystery.

In directing your attention to the differential diagnosis between toothache and tic douloureux, we touch upon a subject which seems very pertinent in an address delivered to a group of your special branch of the profession. It is because the pain is so frequently referred to the teeth or alveolar processes that so many cases originate among your clientèle. Frequently, against your better judgment and because of the patient's insistence, one tooth after another is extracted; first the tooth is extracted to which the pain is referred, then the one on either side, then the remaining teeth on that side of the upper and lower jaws; later all the teeth in both upper and lower jaws on the affected side and sometimes on both sides. But, alas, to no effect.

DIFFERENT FROM TOOTHACHE

THE classical description of trigeminal neuralgia was recorded by John Fothergill in 1712. Tic douloureux is quite different, as Fothergill says, from toothache.

The pain of trigeminal neuralgia is as different from the common toothache as black is from white. The pain of trigeminal neuralgia is paroxysmal, lasts but a few seconds, comes and goes like a flash of lightning; is provoked by eating, swallowing, talking, contact, brushing the teeth, washing the face, shaving. I have often been able to recognize a case of tic douloureux by the condition of the patient's face or hair. One side is clean, the other oily, scaly, unshaven, implying neglect of the ordinary toilet measures.

Nothing is of greater importance in the differential diagnosis than the reaction of the patient to opiates. I have never seen a patient with this disease who was a drug addict. In fact, it is an invariable rule in my clinic never to operate or otherwise treat a patient for major trigeminal neuralgia who has become addicted to drugs. We are so wont to think of opium as the solution of all pain problems. How is it, then, that in this, the most painful of diseases, opium does not meet the indications? I have no explanation, but nevertheless the fact remains indisputable and without exception.

There are three main divisions of the trigeminal system: the mandibular, the maxillary and the ophthalmic. The mandibular supplies the lower jaw, tongue, lower lip and chin; the maxillary—the upper jaw, palate, the upper lip and part of the nose; the ophthalmic—the upper eyelid, part of the nose and forehead. It is well known that in over 95 per cent. of any series pain begins in the mandibular or maxillary, rarely in the ophthalmic division. It continues in the mandibular or maxillary division for many years and then spreads to one or the other. That the upper and lower jaws are so frequently the seat of pain, explains why so many patients first consult the dental surgeon.

ONE SIDE ONLY INFECTED

TRIGEMINAL neuralgia is essentially a unilateral disease. Please remember this. It does not, it never jumps from one side of the face to the other. In rare instances, after the lapse of many years, the opposite side may be involved, but in the several thousand cases in this clinic there are not twenty instances in which eventually the opposite side has become involved.

How do the patients describe the pain? Many adjectives are used in efforts at description—sharp, shooting, like an electric shock; heat is often implied in the sense of a hot iron penetrating the tissues (Fig. 1); but the essential feature is the spasm or the paroxysmal character of the pain. Like a flash of lightning it comes and goes, and between paroxysms the patient is pain-free. If he is not, it is another disease from which he is suffering. We speak of attacks of trigeminal neuralgia. By that we mean a period of time, usually a few weeks at first, in which these paroxysms are more or less frequent. The patient then enjoys an interval of relief; often months, sometimes a year or two. But as time goes on the number of attacks in each year becomes more frequent and the intervals correspondingly shorter, so that eventually a day may not go by without paroxysmal pain.

It is characteristic of the pain of trigeminal neuralgia that the pain is referred to the terminal branches of the main divisions; to the teeth, the alveolar processes, the lips, the chin, the tongue, the eyelids. It is superficial, not deepseated. And frequently there is what has been described as a trigger zone, that is, a zone perhaps no larger than a dime, contact with which may excite a paroxysm. The patient knows full well where this trigger zone is and takes every precaution to avoid touching it.

● MARKED DIFFERENCE IN PAIN

NEED I add any more to the portrayal of this disease, with its excruciating, agonizing pain. Were I to launch forth upon the differential diagnosis the discussion would resolve itself into a series of negatives. There is no pain syndrome comparable. It would be a waste of

your time and mine to discuss the differentiation between trigeminal neuralgia and the pains of dental sepsis, of sinus infections or of herpes. The difference is so striking; they have nothing in common.

In trigeminal neuralgia there are certain associated symptoms, such, for example, as facial spasm or certain vasomotor phenomena, as flushing of the face on the affected side, lacrimation or rhinorrhea. The mention of these vasomotor phenomena at once brings to mind the possible connection of the sympathetic system with trigeminal neuralgia. At the end of my first interview with a patient so afflicted invariably he asks this pertinent question, "Doctor, what causes this dreadful disease?" It vitally concerns him. He has suffered for a number of years; he has consulted a number of doctors; he has tried a number of remedies; his teeth have been extracted, sinuses drained; he has tried osteopathy, chiropractic and sometimes Christian Science. All these failing, he wonders what can be the source and cause of his pain. Hence the question "What causes trigeminal neuralgia?" I must be frank with him. We know all the things that do not cause it—not dental sepsis, not sinus infection, not any peripheral source of irritation, not any central organic lesion. We can only speculate, and to satisfy my own curiosity, which is as great as that of the patient, I attribute the paroxysms to a vasomotor spasm; through sympathetic influence, with which the trigeminal system is liberally endowed, the vessels contract, and an anaemia of the ganglion is established. Hence the pain, since anaemia of the ganglion or any nerve trunk excites pain. This hypothesis fits perfectly with the symptom complex and the absence of any organic changes in the ganglion, the sensory root or the

peripheral branches. This thought—paroxysmal vasomotor spasm—is not wholly peculiar to the disease under discussion. For example, are not Raynaud's disease and angioneurotic edema closely analogous in these two particulars? Both are paroxysmal and in both there is no trace of an organic basis. To me this hypothesis is entirely satisfactory and I always pass it on to the patient for what it is worth.



PATIENT SUFFERS WORRY

WITH these years of contact with the trigeminal neuralgia patient, I have observed two features in his psychological make-up. Many of these patients seem prone to worries, anxieties and apprehensions, and I have become convinced after conversing with many patients that they suffer as much from the apprehension of pain as from the pain itself. In the course of an attack they are in constant dread of the next paroxysm. Violent and agonizing as the pain is, the patient endures it with extraordinary fortitude. He does not allow the pain to interrupt his daily routine, whatever his calling may be. He does not take to bed. In fact, if called to see a patient, who I find has been in bed for days or weeks, I at once question the diagnosis and am almost convinced that whatever the nature of his pain syndrome, it is not major trigeminal neuralgia.

This all sounds very paradoxical, but you will have to accept it as the truth. I never have heard of a patient who committed or threatened suicide, though the suffering unrelied might well serve a provocative cause. These patients are not subjects of psycho-neuroses as are many of the patients who have other and irregular forms of neuralgia which, for lack of a better

term, we are wont to call by contrast, atypical neuralgia.



TO DO WITH DENTAL WORK

HAD I time, I should like to describe in detail some of the characteristics of the atypical neuralgias. But I shall refer to but one group of these neuralgias, because they have to do with dental operations. About 20 per cent. of our atypical neuralgia patients attribute their attacks to tooth extractions. Usually they are difficult extractions; often the tooth breaks in the extraction and the remnant is removed with difficulty. Sometimes a portion of the alveolar process is fractured. Usually the wound is slow in healing. This is the beginning, and from that time on the patient complains of constant, not paroxysmal pain, as a rule burning in character, involving the jaw, sometimes spreading to the tongue and to the cheek. The pain is worse at night than by day. Many patients so afflicted are referred to me for operation, with a diagnosis of "tic douloureux". The differential diagnosis is not difficult to make, and unfortunately there is no panacea. None of the remedies which we know to be so effective in "tic" are of the slightest avail. Not only will they not make the patient better, but always worse.



WELL ESTABLISHED TREATMENT

THE treatment of major trigeminal neuralgia is thoroughly established. It has been claimed by some that inhalations of trichloroethylene are effective in relieving the paroxysms. Such has not been my experience. If they are effective, they may have been in patients that have not come under my observation.

The only effective means of relieving trigeminal neuralgia are alcoholic injections and what we call the major operation section of the sensory root. Under what circumstances do we advise one or the other? After the patient understands that one is of transitory benefit, the other a permanent cure, the choice is left to the patient. We must distinguish between operations of necessity, performed to save life, as in perforated duodenal ulcers, and operations of choice. The operation for trigeminal neuralgia is obviously one of choice, since the disease neither threatens nor shortens life. Hence the patient should be allowed to decide whether he wants an alcoholic injection or the radical operation.

Proficiency in alcoholic injections comes only with experience. While one may be content with injection of a peripheral branch, the supra-orbital, the infra-orbital or the inferior dental, the effect of these injections is too short-lived. In my clinic, alcoholic injections imply injection of the maxillary or mandibular division at the point of exit from the skull or, in exceptional cases, injections of the Gasserian ganglion itself.

By the radical operation we imply sub-total section of the sensory root, an operation which I have practised well over 700 times, or, to be exact, yesterday morning I operated upon the 729th patient.



MORTALITY OF 22.4

AS MANY of you know, before this operation was proposed in 1899 by Spiller, the radical treatment implied removal of the Gasserian ganglion—an operation which in 1894 carried with it a mortality of 22.4 per cent. The sensory root has replaced the ganglion operation throughout the world. In experienced hands the hazards are almost negligible. For

example, in my own clinic I have performed a series of 390 successful operations with but a single death, a mortality of two-tenths of 1 per cent. This low rate is all the more astounding when one considers that many of the patients are advanced in years above sixty, many above seventy, some eighty or over.

We can give the patient absolute assurance that the pain will never recur. To be able to allay his apprehension as to the immediate outcome—for often he has been told the operation is hazardous—and to be able to assure him that the results are enduring, at once puts him at ease. He has had many disappointments with other forms of treatment and his first reaction to your assurances is one of skepticism, but I find he derives great comfort if an opportunity is given him to confer with a patient who has had the operation.

In the thirty-one years which have elapsed since I first practised section of the sensory root, the operation has been refined in many details. It has now reached a stage of perfection which seems to meet every criticism, so that from the standpoints of operative risk, cosmetic effect and lasting results, the operation more nearly approaches the ideal than any other single procedure with which I am familiar.

3400 Spruce St.

Dr. Allison Smith

Graduate of Chicago and Manitoba Dental Colleges and former demonstrator at Colorado State Dental College. He has been practising since 1892 and besides has been ranching for 30 years, raising pure bred horses and cattle. Dr. Allison Smith also runs an irrigation farm on the Saskatchewan river.

“Heroism”

From—IN THIS OUR WORLD

By—Charlotte Perkins Stetson

IT takes great strength to train
 To modern service your ancestral brain;
 To lift the weight of the unnumbered years
 Of dead men's habits, methods, and ideas;
 To hold that back with one hand, and support
 With the other the weak steps of a new thought.

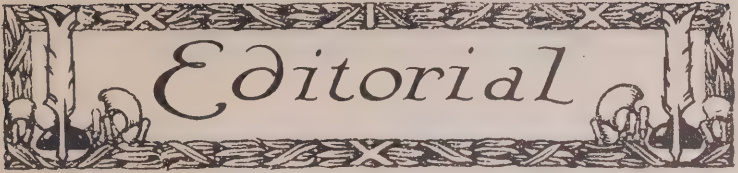
It takes great strength to bring your life up square
 With your accepted thought, and hold it there;
 Resisting the inertia that drags back
 From new attempts to the old habit's track.
 It is so easy to drift back, to sink;
 So hard to live abreast of what you think!

It takes great strength to live where you belong
 When other people think that you are wrong;
 People you love, and who love you, and whose
 Approval is a pleasure you would choose.
 To bear this pressure and succeed at length
 In living your belief—well, it takes strength.

And courage too. But what does courage mean
 Save strength to help you face a pain foreseen?
 Courage to undertake this lifelong strain
 Of setting yours against your grandsire's brain;
 Dangerous risk of walking lone and free
 Out of the easy paths that used to be,
 And the fierce pain of hurting those we love
 When love meets truth, and truth must ride above?

But the best courage man has ever shown
 Is daring to cut loose and think alone.
 Dark as the unlit chambers of clear space
 Where light shines back from no reflecting face.
 Our sun's wide glare, our heaven's shining blue,
 We owe to fog and dust they fumble through;
 And our rich wisdom that we treasure so
 Shines from the thousand things that we don't know.
 But to think new—it takes a courage grim
 As led Columbus over the world's rim.
 To think it cost some courage. And to go—
 Try it. It taxes every power you know.

It takes great love to stir a human heart
 To live beyond the others and apart.
 A love that is not shallow, is not small,
 Is not for one, or two, but for them all.
 Love that can wound love, for its higher need;
 Love that can leave love, though the heart may bleed;
 Love that can lose love, family and friend;
 Yet steadfastly live, loving, to the end.
 A love that asks no answer, that can live
 Moved by one burning, deathless force—to give.
 Love, strength and courage. Courage, strength and love,
 The heroes of all time are built thereof.



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NO. 1

Public Dental Service

BELIEVE it or not, like it or not, there is going to be some form of health insurance or health service under state control in every civilized country in the world. Most countries even now have state control of health. Dentistry has made out such a good case for the value of its services that the public whether they pay for it or not, are going to demand it.

FOR many years past we have been told that only 20% of the public received adequate dental services. This leaves 80% not served at all. The 20% can take care of themselves but it is the 80% that the state is concerned about. When the state undertakes to serve the 80% the dental profession will be vitally interested because the state will naturally look to the dental profession to supply the service. This fact opens up another question. Is the present dental education suited to serve the 20% or the 80%?

ONE fears that it is, in most cases, too completely adapted to those who can pay the highest fees, for both dental education and dental services. When the change takes place there will be a wide field opened up for dental health service. We predict that practice will differ markedly from our present procedures. Whether state health insurance comes or not, it won't make any less dentistry to be done for the well-to-do, but on the other hand, if it does come, there will be far more to be done for the poor.

DENTAL SOCIETIES

American Dental Convention in Chicago and Detroit, Mich., Hospitals

The Convention in Chicago was both interesting and instructive. The officers and organizers of the Convention deserve great credit for the careful preparation and successful conduct of that great meeting. The programme was worked out well, and the variety of lectures, clinics, demonstrations, and discussions covered adequately the entire field of dental service. As a lone member from Montreal I feel particularly grateful to the past and present officers for making me feel at home in their midst, and for their efforts in making my short stay in Chicago so profitable.

To give you just a brief description of the admirable arrangement of the Convention Hall I would mention the following: The name of our organization appeared across the top of our Exhibit Booth. A large lovely photo of the founder of the America Dental Assistants' Association was evident (Miss J. A. Southard). To the right of the exhibit was a placard on which was listed the course of training sponsored by the Societies. Exhibits showing the difference in the duties and efficiency between the dental assistant of old and the modern assistant. The display also included a collection of bulletins, official programmes, and copies of articles giving an example of the higher degree of activity carried on at present.

Monday, August 7th. 186 of our members registered. Tuesday—Chicago Dental Assistants' Association extended a dinner and trip to our members. At the banquet

we were honored with the presence of several guests, among them being: Dr. L. Lindsay of London, Dr. Chas. Luce of Germany, Dr. Okimura of Japan, Dr. and Mrs. Chas. Wherry of Salt Lake City, Dr. Frankel B. Clemer of Chicago, and Dr. G. Walter Dittmar of Chicago, who is President of the America Dental Association. On account of illness Miss J. A. Southard was greatly missed.

From Chicago I went to Detroit, where I got in touch with Dr. Frank Murphy (a McGill graduate) who is chief anaesthetist of Harper Hospital, and I was well received by the following: Drs. D. Covin and Bellinger, Chief Surgeons of the Dental Clinic of the above Hospital; Dr. John Shackelford, Chief Surgeon of the Dental Clinic of the Receiving Hospital, where I have seen the most interesting cases in our practice; Dr. D. H. Bellinger, Chief Dental Surgeon of the Ford Hospital Dental Clinic. As guest of Dr. Bellinger I was invited to one of the most interesting clinics in surgery, as an example of dental surgery, a gland was removed from a patient while I was there. Dr. Monroy, who is the House Doctor of the Children's Hospital, is a Toronto graduate and has a Dental Hygienist to assist her; the Superintendent, Nurse Stuart, is also to be remembered. I greatly benefited by the courtesy of the nurses in charge of the clinics which was extended to me, and I am pleased with what I saw and learned.

I am of the opinion that whenever possible Dental Assistants should make an effort to spend as much time as possible at hospitals. It will well repay any effort in the

future.—(*Miss*) *E. Stubina, Sec'y, Montreal Dental Assistants' Association.*

Activities of the Montreal Assistants' Association

Montreal Dental Assistants' Association held their monthly meeting Nov. 22nd, 1933, at the McGill Dental Faculty.

Dr. F. W. Saunders, Dental Surgeon of the Royal Victoria Hospital, was the guest of the evening. His subject on "System in Exodontia" was remarkably touched.

Miss Rachel Ratner reported the recent American Dental Assistants Convention in Chicago and Detroit, Michigan Dental Clinics at the hospitals. Her report is printed verbatim in this issue.

Miss W. Hyde, President, was in the chair.

The monthly meeting was held on Wednesday, December 13th, at the McGill Dental Faculty. Miss W. Hyde, President, was the speaker of the evening. Her subject was "Setting Fractured Mandibles". She outlined the importance of the Dental Assistants in the operation. A tray with necessities should be prepared for it; (1) To limit movement until fractured parts have united in correct position. (2) To fix in such a way that the normal occlusion is presented. (3) To maintain absolute cleanliness and care of the tissues.

Miss E. Stubina, Secretary, thanked the speaker of the evening. Mrs. M. McKenna, V.P., extended to the Society heartiest wishes for a Merry Christmas and a Happy New Year.

Hold Toronto Election

Miss Jessie Brown was elected president by acclamation at the sixth annual meeting of the Toronto Dental Assistants' Association

held in the Royal York hotel. Miss Ellen Tuck presided. Other officers elected were: Miss Laverne Clair, vice-president; Miss Dorothy Westbrook, recording secretary; Miss Marguerite McDowell, corresponding secretary; Mrs. Marion Edwards, treasurer; Mrs. E. Metcalfe, membership convener; Miss Helen Campbell, social; Miss Bertha Gee, visiting.

Tells Tale of Drummond

Mentioning the latest achievement of the Cobalt Kiwanis Club, Dr. Armstrong told of the preservation of a log house in memory of the late Dr. Drummond, noted Canadian author, who through his verse has made famous the habitation. The log house was erected on a hill in 1906 and although no roadway ran to the edifice, it was here Dr. Drummond resided with his family for a number of years. Sitting in front of the big fireplace in this house, the gifted composer wrote many of his now famous poems. The building was about to be torn down, and the top of the chimney had been dismantled when the Kiwanis Club took hold of the property. A lease was secured from the mining company owning the land and the building carefully restored. When completed a large plaque was installed and the Governor-General was present for the unveiling dedicating the memorial to the memory of Dr. Drummond and his family. The event was a big day for Cobalt and the Kiwanis Club sponsored the entire event. The President of the Canadian Authors' Association stated that this was the first memorial ever erected in Canada to the memory of an author. Citizens of Cobalt were pleased to know that their town not only led the country in mining, but also in remembering famous Canadian authors and artists.

Dr. Toothacre Attended to School's Dental Needs

Burlington school children contend, despite the popular adage, that "there is something in a name."

Last year the public school dentist, his report revealed, cleaned 2,536 sets of schoolgirl and school-boy teeth, filled 5,198 aching cavities and pulled 1,055 teeth.

The dentist's name is Dr. H. A. Toothacre.

—●—

County Dental Association

The annual meeting of Simcoe County Dental Association was held at the Ontario Hospital, Orillia. The subject was "Stabilization of Lower Dentures." President Dr. E. L. Brereton of Barrie, presided. There were 18 in attendance, the old officers being returned for another year. Dr. Cole, Toronto, conducted a very interesting clinic. Dr. Horne and Dr. Seymour of the Ontario Hospital entertained the visitors at dinner.

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Seldom Successful

Inquiries among the dentists found Dr. G. A. Lee of St. Clair Ave. just having done some work on an Upper Canada College casualty with "a nasty bruise in the mouth. He said he had intercepted a forward pass," the dentist explained.

Echoes of lost teeth on the gridiron had also come to Dr. Andrew J. McDonagh, well-known dental consultant of Bloor and Yonge Sts., although he could not remember the names. "I have heard of several of them," he said, "some have come in to see if it were not possible to have them replaced, but that operation is not altogether successful. The transplanted tooth usually does not last more than two or three years, providing the operation is successful."

Ask for Government Help

The Public Health Committee of the Ontario Dental Association and the executive officers of the Canadian Dental Hygiene Council approached recently the Ontario Department of Health with an invitation to join with them and co-operate with organized dentistry for a public dental health educational campaign in this part of Ontario. The department gladly accepted this opportunity to co-operate and agreed to make a substantial contribution to the program.

This program goes beyond the field of mouth health and includes all phases of physical and mental health protection. It is broad in its scope. The general organization, in regard to dentistry, is under a committee consisting of the deputy minister of health, and representatives of the Ontario Dental Association, Royal College of Dental Surgeons, and the Canadian Dental Hygiene Council, with the field secretary of the council and the provincial director of dental services as executive officers.

The educational program, now under way, is extensive and intensive. The workers are teachers, nurses, dentists and many volunteers. Literature and educational material is prepared. Public meetings, teaching in the schools with the help of the executive officers, moving pictures, newspaper articles, radio talks and many other kinds of instructive efforts are being made at present to encourage, warn and inform the public in the counties.

The dentists of the district visit the schools, examine the children, prepare a report and send it to the home. Parents who can pay fees are urged to immediately have the necessary services provided by the family dentist. Those without financial means can secure essential treatment at public cost. Children

of pre-school age are also brought to the schools and examined, or reached by the nurse during her home visiting. Records and statistics are being kept during the home visits of the nurse regarding the factors keeping the people from required treatment. They gather information regarding why citizens are deterred from seeking dentists' aid and the percentage of our people who, for any reason, fail to protect themselves from the untoward results of dental diseases.

This is a magnificent health experiment; one which, in its completeness, is superior to anything yet attempted. The enthusiastic and intelligent co-operation of all the parties concerned ensures its success, and its consummation will mark another milestone in the sane and steady progress of public health in Ontario.

Dental Clinic Held

Dr. I. Irvine Ante of the Royal College of Dental Surgery at Toronto, was the speaker at a dental clinic held by the Simcoe Dental Association. The meeting was held in the Canadian Legion rooms, a dinner at the Hotel Melbourne following. Dr. J. A. Grant presided at the gathering.

Dental Nurses

The regular meeting of the Dental Nurses Alumnae Association of Toronto was held in the Faculty Room, Faculty of Dentistry. Following a short business meeting, Miss Adele Cameron introduced Dr. F. L. Cole as guest speaker. Mr. Dalton, the official photographer, showed motion pictures of a trip conducted by Dr. S. A. MacGregor of Boy Scouts from Eglinton United Church. Dr. F. L. Cole officiated as one of the leaders on this trip to Quebec and return. During the intermission, Mr. George Clarke, a

fifth year dental student, entertained the alumnae with a reading.

Table Clinics at Meeting

The Hamilton Academy of Dentistry met at the Royal Connaught hotel in Hamilton on December 15 at 2.30 p.m.

Table clinics were presented by the members of the Academy as follows: Dr. A. V. Lester, "The Care and Use of Instruments"; Dr. J. M. Shultis, "A New Thermoplastic Denture Technique"; Dr. G. L. Prestien, "Filoro Gold"; Dr. H. A. Robertson, "Selected Stunts in Dentistry"; Dr. E. C. Jackson, "Prosthetics"; Dr. T. C. Moyle, "Block Anaesthesia"; Dr. A. L. Williams, "Bite-Wing X-rays"; Dr. D. S. Coons, "Duplicating Models"; Dr. W. J. Ross, "Restoring Broken Incisors With Baked Porcelain, Using Pin Anchorage"; Dr. R. G. Hemmerich, "Selected"; Dr. W. Mitchell, Dr. H. G. Brownlee and Dr. J. E. Moser, "Electro-Deposition of Copper".

The evening meeting commenced at 7.30 o'clock, when Dr. E. F. Mimmack of Buffalo University presented a paper on "Some dental drug preparations and their practical uses and their relation to soft tissue pathology."

The fifth-year students of the dental department of the University of Toronto accepted an invitation to be the guests of the Hamilton Academy of Dentistry at this meeting.

Commend Nurses' Action

The medical and dental professions of Kentville passed a resolution commending the action of the Victorian Order of Nurses in passing a resolution to sponsor and financially assist a general health survey of the pupils in the Kentville schools.

Hold Inaugural Meeting at Victoria

The members of the Victoria Dental Society held their inaugural meeting for the season, gathering at Speedie's Café for a dinner at 6.30 o'clock. Following the transaction of numerous items of business the president introduced the guest speaker, E. E. Rogers, managing director of the Ash Temple Dental Society Company of Vancouver, who gave an interesting and helpful talk on the progress and possibilities of the modern dental office. During the evening the members of the society by silent vote paid tribute to the memory of Dr. Lewis Hall, who passed away recently, and who was one of the charter members. Dr. Stanley F. Miles presided and those in attendance were Drs. W. J. Gibson, H. L. Burgess, E. C. Fowles, C. B. Mess, J. H. Fraser, W. N. Gunning, J. C. Foote, W. W. Bryce, T. H. Johns, H. J. Henderson, R. Mitchell, C. N. Westwood, R. F. Verrinder, P. J. Rumball, B. E. Nickells, Mercer and Messrs. E. E. Rogers and T. C. Moulds.

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B. C. Teeth Praised in London

A group of Vancouver residents have gained the unique honor of having their teeth written up in the *British Dental Journal's* October issue.

But though their teeth are perfect, they aren't likely to get conceited about it, for they have been dead these thousand years or more. They are Vancouver's prehistoric Indians, a report on whose teeth was prepared by Dr. G. E. Kidd, Vancouver, and Dr. G. E. Darby, Bella Bella.

The report was originally sent to Miss M. Tildesley, secretary to the famous British anthropologist, Sir Arthur Keith, and herself a well-known anthropologist.

Miss Tildesley was so impressed with the report that she thought it should be passed on and given more publicity.

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Elect Officers at Ontario Meeting

The Durham and Ontario Dental Association, which comprises territory from Pickering to Cobourg and also Port Perry and Orono, held their first meeting of the 1933-1934 season in the Genosha Hotel with a good attendance of the members. The President, Dr. Hudson, of Whitby, presided. The main items of business were the election of officers for the coming year, and a discussion of the winter's program.

The following officers were elected: President, Dr. G. M. Trewin of Oshawa; Vice-President, Dr. Bonnycastle of Bowmanville; Secretary-Treasurer, Dr. S. J. Phillips of Oshawa.

It was decided to hold four meetings during the coming winter and spring. These gatherings will be held in December, January, March and April, and an effort will be made to have special speakers for each of the meetings.

It is expected that the December meeting will be addressed by Dr. Frank Cole of the University of Toronto, whose subject will be "Full Dentures".

Last year's officers of the association were: President, Dr. Hudson of Whitby; Vice-President, Dr. Trewin of Oshawa, and Secretary-Treasurer, Dr. Beaton of Whitby.

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To Clear Way for Dentists at Hospitals

At the annual dinner of the Hamilton Dental Society on December 13th, Dr. Bell, deputy minister of health, congratulated the society on its standing and the good work it

was doing in the community. He suggested that the society should urge an amendment to the Medical Act so that their status in hospitals would be clearly established.

Dr. Bell stated that we were now passing through strenuous times which some realized more than others. "As president of the advisory council of dental services, I visited many centres, but none are carrying on their work with greater success than the Hamilton Dental Society," said Dr. Bell. "The dentists are pursuing their work as an ideal of their profession, not as a trade to see what they can get out of it," he added.

Continuing, Dr. Bell stated that the dentists were bringing great credit on themselves, and pointed out that the dental profession was an important part of the great art of healing. He pointed out that under present regulations the dentists have no right in the general hospitals of the province. They must enter or attend a patient under an order from the board of governors or under instructions from or with a medical man. "I don't believe this condition should exist," said Dr. Bell; "dentists should be permitted to admit patients to a hospital and visit them there. The dental profession should make a strenuous appeal to have this Act amended. You have the right for consideration in view of the high status your profession has attained," the speaker concluded.

Features of the informal program that followed was a sleight of hand demonstration given by John Booth, a McMaster performance. Frank Skerrett and Bellback of the Central Hamilton Athletic Club, put on a lively boxing bout.

Health Study Planned for Early in New Year

Beginning the year with an eye on health the Y.W.C.A. arranged a health week with Dr. Tisdale speaking on "Choosing One's Diet" and Dr. Grant on "Care of the Teeth".

Other lectures in the series include Dr. Porter on "Correct Posture and How It Affects the Feet"; Miss Somers on "Posture"; Dr. W. J. Bell on "Community Health"; Dr. Helen MacMurchy on "Maternal Welfare"; Miss C. Whitton and Miss Nora Lee on subjects relative to their work. The week will conclude with a play night when games, dances and physical display will be featured.

Briefs

The regular monthly meeting of the Toronto Dental Assistants' Association was held on Monday, December 4th, at the Royal York Hotel, with the president, Miss J. Brown, in the chair.

The next annual meeting of the American Dental Society of Europe will be held in Holland at the Hague at Whitsuntide, from the 18th to the 21st of May, 1934. Dr. E. J. Ortion, 14 rue Christophe-Columbe, Paris, secretary.

The Hamilton Academy of Dentistry received a report from a committee which recommended several changes, including the amalgamation of local health and medical services.

At the ratepayers' meeting at Cardston, Alberta, Principal Turner announced that costs and preliminary steps had been arrived at and the sanction of the School Board was all that was necessary to make effective a contract between the local dentists and the School Board for the benefit of the children of the public school.

DENTAL NOTES

Two New Scholarships Offered in Dentistry

For the ensuing session two matriculation scholarships are being made available to students who enroll in the first year of the Faculty of Dentistry of the University of Toronto, the one of the value of \$150, and the other of the value of \$100. These two scholarships have been made available by the Board of Directors of the Royal College of Dental Surgeons of Ontario in memory of James Branston Willmott, a former Dean of the Faculty of Dentistry. The awards are to be made upon standing obtained either in the departmental or first year arts examinations in the subjects required for entrance to the Faculty of Dentistry. Character and capacity for leadership will be considered in making the awards.

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The Teeth and Health

If a threshing machine had only a few broken down teeth on its rollers, half the harvest would be lost. Imagine, then, the condition of a mouth with a number of decayed and broken down teeth, foul with the decayed accumulation of past meals. Food is rolled from one side of the mouth to the other in a make-believe effort of chewing, and then mixed with the remains of previous meals still in contact with the teeth, is swallowed with a gulp of water. Is it any wonder that so many people are always tired? Their stomachs must be made of cast iron to withstand such treatment, and they are no doubt tired of carrying them around. None would think of using a fork or knife that still held a remnant

of this morning's breakfast. Why not apply the same standard to the mouth?

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Teeth Are Perfect in Ancient Skulls

Vancouver, Nov. 4.—The prehistoric dentist—if there was such a thing—must have had a pretty thin livelihood in this part of the world. Examination of skulls some 1,000 years old, dug up at the Great Fraser midden, near Marpole, five miles south of Vancouver, reveal that the teeth were 100 per cent. sound. Of 120 skeletons examined the teeth of only two showed dental decay.

But though they had no dental troubles they had illnesses similar to those affecting present-day residents. One Indian was quite apparently afflicted by arthritis and some glandular disorder. Another had got a bad bang on the head and some skilled medicine man had trephined it—an operation that only the cleverest surgeon would undertake today.

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Extra Study Course at Toronto

Under the extra mural study plan of the University of Toronto Dr. E. W. Paul, professor of double surgery and anaesthesia, of the Royal College of Dental Surgeons, and in private practice one of the most widely known experts in that branch, held a clinic and gave a lecture to the members of the Thunder Bay Dental Association. A practical clinic demonstrating the technique for difficult and unusual cases, principally in impactions of which there are several, was given.

How Many of Your Teeth Will You Outlive?

It is somewhat ironical, but a good dentist's advertising should be designed to prevent the decay of your teeth and the need for your visiting him. In dentistry, as in most everything else, prevention is better than cure.

A dentist's advertising should be educational.

Daily care of the teeth is very important. Teeth and gums should be brushed four times a day—after each meal and before retiring at night. For business men and many other people, this is impossible, but twice a day is imperative. Brushing removes food particles from around and between the teeth. It is the presence of food that causes decay by breeding bacteria.

A tooth brush of medium stiffness is desirable. The head should be small enough to allow free movement in all parts of the mouth.

The best dentifrices are those that are free from grit. Abrasives scratch and wear away the enamel. The enamel is the outer armor of the tooth proper, and when it is impaired it permits penetration of the acids that are ever present in the mouth. Grit may also scratch or irritate the gums and infection may result.

The correct movement for cleansing the teeth is downwards and upwards — downwards for the upper jaw, upwards for the lower one. The bristles should be placed firmly against the gum tissues and the motion should be a sweeping one, gum to tooth. One jaw should be done at a time, with the mouth partially open, and never should the teeth be tightly closed and brushed, upper and lower together, in a horizontal sweep. Such action tends to inflame the delicate edges of the gums, and also to wear away the protective enamel.

The insides, or backs, of the teeth are as important as the outer surfaces, and particular attention should be given to the line where teeth and gums meet. It is at this line—the danger line—in the V-shaped crevices that decay most often starts.

After brushing, the mouth should be rinsed very thoroughly. The tooth brush may have dislodged or loosened food particles, but it may still require the muscular action of cheeks and tongue to force water through the crevices and make certain of thorough cleansing.

How many teeth you will have at 70 depends largely upon the care you give them today, and whether you will be alive at 70 comes also into the question. The mouth is the gateway of the body. All food must pass that gateway, and if teeth or gums are diseased, germs may contaminate the food. Poisons from unclean or decayed teeth and infected gums may also enter the system by entering the blood stream, because the same blood that supplies the teeth and jaws with nourishment and carries off their waste also comes in contact with the other parts of the body.

Time alone can answer the question of how many teeth you will have when you are 70, but if you will guard them by daily care and regular visits to your dentist, you may hope to have all of them.

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Majority Require Dental Treatment

Of 2,000 school children examined at the Rawlinson school clinic between 80 and 90 per cent. had defective teeth. This fact was revealed to members of the Hume-wood Home and School Club by Dr. Harper of the York Township Dental Clinic.

Obituary

Dentist Dies

Dr. Brett Anderson, aged 58, well-known Vancouver dentist, died suddenly at his home, 6135 McDonald Street. Coming to Vancouver from California twenty-five years ago, Dr. Anderson soon became active in his profession and often suggested changes to the Dental Act.

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Dr. T. H. Levey of Victoria Dies Suddenly

Dr. Thomas H. Levey, dental officer for Military District No. 11 for many years, passed away suddenly at his home at 725½ Fort Street, just as he was preparing to return to his office.

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Dr. James Manning Passes

Dr. James Manning, for more than 40 years a successful practitioner in dentistry, high in the councils of the Church of England, identified actively for a long period in behalf of orphan children and participant in political affairs, passed away at his home, following an illness of nearly 10 months.

Son of a cultured family, the head of which house was the late

Edward Manning, M.A., educationist and latterly secretary of the Board of School Trustees, he contributed largely to the better movements of city life, including music and literary circles, and was for a number of years an officer in the local militia.

Dr. Manning's last prominent appearance before his fellow citizens was during the civic balloting of April, 1932, when in relaxation from professional duties he offered as a candidate for commissioner. As he expressed it at the time, it was his willingness to serve his city in a larger capacity and thus round out a busy life.

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Dies Suddenly in Toronto

News of the death of Dr. Lloyd T. Veitch, dentist of Toronto, who succumbed to a heart attack in his apartments at the rear of his dental office at St. Clair Avenue and Dufferin Street, came as a great shock to his many friends in Port Elgin where he was born and spent his boyhood. Deceased was found dead on the bed in the apartment by his wife, and according to Chief Coroner Dr. M. M. Crawford, who was called, his death was due to a heart seizure.

Prized Hockey Stick Found After Years

Kingston, Nov. 3.—When "Rube" Millan, Kingston member of the Toronto Dentals, won them the Allan Cup with an overtime goal at Winnipeg sixteen years ago, the stick and puck were placed on exhibition at the University of Toronto.

They lay there for years. Millan went to France and when he searched for the stick on his return, it had disappeared.

Years went by and he gave up hope of recovering it. Last week a letter from the Dental College informed Millan his trophy had been found.

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Flying Dental Office Burns

Anchorage, Alaska, Dec. 6.—A large cabin monoplane owned by an Anchorage dental clinic, was destroyed by fire at Flat, Alaska. The aeroplane was the only one that was equipped as a "flying dentist's office" in Alaska.

Radiography's Value Emphasized by Dentist

The extensive and necessary use of radiography in modern dentistry was stressed by Dr. James Copeland, of Ottawa, guest speaker at a meeting of more than 200 members of the Ontario Academy of Dentistry, at a meeting which followed a dinner of the group in the Royal York Dec. 6.

"Radiographic Survey", Dr. Copeland said, "is the integral part of a dentist's oral examination. It is the only guide to retained root fragments, a most common occurrence, and it was just recently that no less an authority than the Mayo Clinic pointed out that one person in every three who have had extractions of teeth are found to have indications of retained root fragments."

He warned the gathering, however, that an exacting technical procedure must be practised in making radiographic or dental X-ray examinations. Many patients, he said, now demanded this service. The doctor illustrated his lecture with radiographic slides made of his own mouth and of patients which showed the development of this type of dental work.

The academy was observing Past President's Night. Dr. Thomas R. Marshall, Immediate Past President, presided, and Dr. E. A. Grant was toastmaster.

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School Dentist

Sydney, Dec. 4.—Sydney may return to the "school dentist" system of caring for children's teeth, it was intimated in School Board discussion here. Many children are suffering tonsil infection and more from defective teeth.

Dentist Makes Report

The school dentist, Dr. G. K. MacIntosh, treated 441 school children during November, of whom 296 were new patients. He carried out 445 extractions and 207 fillings, according to the report of the Medical Department, Halifax School Commissioners.

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Teeth Are Perfect in Three Classes

Annette St. Public School has set a new record in Toronto, having three classes which have attained 100 per cent. perfection in the state of the pupils' teeth. Trustee Dr. E. T. Guest has offered to present a cup to the first Toronto school which attained 100 per cent. perfection in every classroom.

Miss Lela Forsythe and John W. N. Kee have been awarded the 100 per cent. certificate presented by the Academy of Dentistry for attaining such perfection.

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About five miles east of Sussex by the Sussex-Moncton highway hangs a sign bearing the legend:

"Teakles Fox Ranch — Registered Silver Foxes."

Were you to journey down the sylvan line a few rods you would find what is considered by many visitors, one of the best managed silver fox ranches in the Maritimes.

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Dr. Milton L. Moore

Dr. Milton L. Moore has been actively engaged in public service, being on the School Board for five terms and on the Board of Directors of the Alberta Dental Association for 15 years. He is now president of the Curling Club and of the Fish and Game Association, as well as a director of the Rink Company.

Specialists Scorn Idea Vitamin D Causes Cancer

Refuting the recent suggestion that artificial forms of vitamin D may cause cancer, leading Toronto physicians maintain that this "sunshine vitamin" does tremendous good to growing children and even adults, whether it is derived from sunlight, viosterol, or bread and milk to which vitamin D has been added. An overdose is practically impossible, the medical experts say.

"The most serious dietary deficiency in the world today is the deficiency of vitamin D," declared Dr. F. F. Tisdall, quoting from a recent article by Professor E. V. McCollum of Johns Hopkins Hospital.

"We have known for some years that it is absolutely necessary for the proper calcification of bones and the formation of perfect teeth," Dr. Tisdall recalled that a recent conference of dentists in Toronto had been told that when vitamin D was added to the diet tooth decay was reduced by half.

"Children definitely sulk in the winter months for lack of it," said Dr. Tisdall.

"Sunlight at midday on a clear day can change into vitamin D the ergosterol present in the skin of every person."

Viosterol, he explained, was made in laboratories by applying sun rays to ergosterol. "So you see," he added, "it isn't artificial vitamin D at all. The only difference is that, in the one case, the chemistry takes place inside the body, while in the other, it takes place outside."

"Cod liver oil, viosterol and sun lamps all do a great deal of good," said Dr. Tisdall.

He voiced the hope that all families would soon have enough of this "sunshine vitamin" by eating specially treated bread and milk.

"What do you think of this recent suggestion that artificial forms of the vitamin may be a cause of cancer?" The *Star* queried.

"Viosterol has been used for six years and it seems to me that if there was any harm in it it would have been discovered before now."

USED BY SPECIALISTS

"It has been approved by the foods committee of the American Medical Association. It is used by every child specialist, as it is far past the experimental stage. Not only in the United States, but also in England, Germany, France, Italy and the other European countries viosterol has been widely accepted by the medical profession.

"I have never before heard the suggestion that vitamin D might be a cause of cancer," he continued. "I have been all over the country and I have been in touch with most of the authorities, but I have never heard of anything to connect the two in any way."

On his recent visit to England he found that most of the doctors at the famous Lister Institute in London were taking viosterol themselves.

BUILD STURDY BONES

Dr. Alan Brown, physician-in-chief at the Hospital for Sick Children, declared that far from causing cancer or otherwise impairing health, the "sunshine vitamin" did much to build sturdy bones and sound teeth in growing children. Even adults, he said, needed more vitamin D to keep their teeth from decaying and to maintain their bones in a generally healthy condition.

Dr. Roy Simpson, child specialist, also declared that there was "nothing in it at all." He pointed out that cod liver oil, which had a high vitamin D content, had been fed to children for almost 300 years, but cancer was never found associated with such treatment.

Errors and Facts About Teeth Decay

Not many years ago many of us in the medical profession thought that uncleanness alone causes decay of the teeth, that a clean tooth will not decay and that diets of oranges, tomatoes, cod-liver oil, etc., are of more benefit to the manufacturers of those things than to the patients.

But wider experience and observation compelled many among us to change our minds. Even if we limit the intent of the term "clean tooth" to mean teeth from what the dentist calls plaques and the public calls "film", there are probably very few clean teeth. Probably 93 per cent. of the teeth in human mouths have film of one kind or another. But millions of those teeth have not decayed, and probably will not. I have seen film on teeth that may have been there fifty years without causing decay.

There are groups of people in parts of the world not yet affected by the great American diet of meat, cooked starches and sweets who live long lives without the dentist, the toothbrush and the dentifrice, and with little or no decay of the teeth. Dr. Boots has demonstrated this among the Koreans, Dr. Gysi amid the shepherds of South Germany and the Swiss mountaineers, and Dr. Waugh among the Eskimos of Labrador and Alaska. Each of these dentists has shown that wherever the American diet enters, decay of the teeth enters with it.

Results of Diet

Dr. Fones, in Bridgeport, Conn., examined with what we call "disclosing fluid", which is designed to cause film to show itself, the mouths of 600 young men, none of whom had visited a dentist or used a toothbrush. The mouths of the 200 young men whose parents came

from Northern Italy and adjacent districts could hardly have been more unclean, but the teeth were practically free from decay. The mouths of the 400 young men who had lived on the American diet were ravaged by decay.

The death-knell of the old theory was sounded by many of us when Drs. Boyd and Drain arrested decay in the mouths of children too sick to have ever had dental service, merely by seeing that the children were well fed. Some of these children had ten cavities each. The debris in the cavities was not touched. Decay was arrested by diet in the midst of all the uncleanness one could ask, and with no effort at cleanliness. The cavities are open, or were the last I knew, but decay was stopped.

Arresting Decay

The flowers at the funeral of the old theory were supplied by the Chicago Dental Research Club. They found more than three hundred children in a home at Mooseheart, Ill., well fed and well cared for, with habits of good mouth care. Each child had three ounces of orange juice daily. Nearly 80 per cent. of the children had active decay of the teeth. The dentists gave each child a pint of orange juice and the juice of half a lemon daily for a year, without changing the habits of mouth care. Decay of the teeth was prevented in some mouths and arrested in half of the children who had it. At the end of a year the quantity of orange juice was again made three ounces per day. Before another year had passed, nearly 80 per cent. of the children again had active decay.

We in our group believe that decay of the teeth is a sign of illness. We are concerned to get the person well. In doing that we find oranges, lemons, milk, vegetables generally and cod-liver oil of great value.

Studying State Medicine

In preparation for the advent, if necessary, of state dentistry, of medicine or both, the province of Ontario is now and has been for the last year, conducting a study of five eastern counties for the purpose of being fully armed with knowledge of the operation of public services along state controlled lines, Hon. Dr. J. M. Robb, Minister of Public Health, told the annual banquet of the Academy of Dentistry at Toronto Monday night. Dr. Robb intimated that the Department of Public Health regarded of immediate importance the need of some new scheme of caring for the public's health and suggested that some such scheme as now exists in the employment of teachers might be found.

Open Dental Office

Dr. G. C. MacPhail, who has been connected with the Boston Dental Parlors for the last fourteen years, has opened his own office on Main Street near corner of Elm, over the Quality Packing Co.

Dr. MacPhail is well known in the dental profession, both in Saint John and throughout the province. He received his dental education in New York, where he practised for a number of years before coming to Saint John. In 1920 he joined the late Dr. J. D. Maher in the Boston Dental Parlor and since the death of Dr. Maher about a year and a half ago, he has been chief dentist there. The new office which he is opening at 519 Main Street, is thoroughly up-to-date and is very conveniently located.

FOR SALE AND WANTED

BUSINESS OPPORTUNITY--

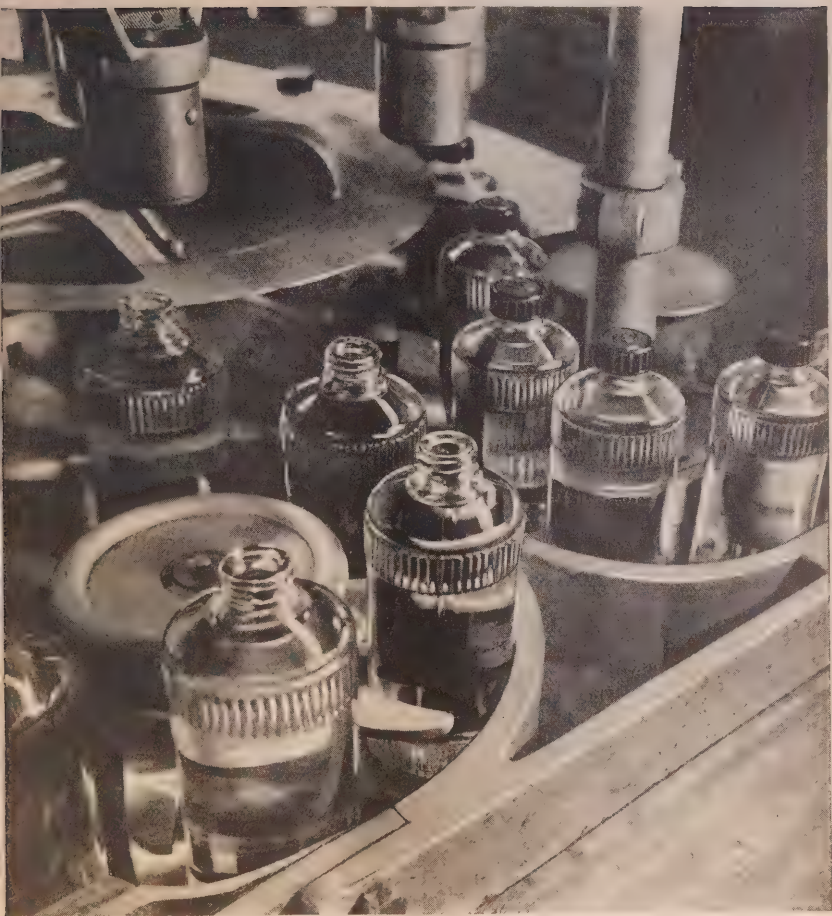
For men who know how to sell. We want to develop a staff of live, energetic men with selling experience to represent three leading Canadian publications. It is spare-time work we offer. No interference with your regular occupation. No investment required—we supply all materials required. Real good commission and bonus arrangement for producers. Write Box 21, care of Dominion Dental Journal, 73 Richmond W., Toronto.

BURGLAR ALARMS—Gentlemen protect your stock and premises. Leave your office tamper proof by installing this wonder alarm. Have your lights come on or sign flash that cannot be put out while alarm is ringing. W. Rhea, 58 Eastmount Avenue, Toronto, Ontario. Gerrard 6356 W.

FOR SALE—Practice and equipment complete in Saskatchewan town. Exceptional opportunity. Low cash price. Box 110, Dominion Dental Journal, 73 Richmond W., Toronto.

FOR SALE—S. S. White Portable Army Dental Chair with case. Excellent condition. Suitable for auxiliary office. What offers? Box 111, Dominion Dental Journal, 73 Richmond W., Toronto.

THREE PIECE SUITE FOR SALE—Settee, chair, and rocker, massive mahogany frames, beautiful finish, silk tapestry upholstery in first class condition. Suitable for waiting room of professional man's office. \$25.00 or near offer. Call Lloydbrook 5011. Box 112, Dominion Dental Journal, 73 Richmond W., Toronto.



STERILIZED BOTTLES

ENDLESS chains of bottles—millions of them—and all thoroughly washed and finally cleansed with live steam before they are filled. This is just one of the many careful steps taken in the manufacture of Pepsodent

Antiseptic. It is typical of the care taken in the manufacture of *all* Pepsodent products. The Pepsodent Company stands high in the estimation of the profession—and it is jealous of that distinction.

THE PEPSODENT CO., TORONTO

The "Denturephile"

Edward Sampson coins this term to denote the sort of female who collects dentures as others do antiques with the exception that satisfaction follows the acquisition of a battered Highboy while hatred is the only feeling the "denturephile" has for her souvenirs. Beware the denture hunter!

"I never cared for comfort,
I find an awful bore
My fellow creature's passion
For plates without a sore.

Let those who please
Eat beef and peas,
But spare me, dentist man,
I just groan
And try to own
Each denture that I can."

—*Dent. Mag. and Oral Topics.*

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Conservatism or Radicalism

Extraction to remove infection may result in Radicalism, which may be degraded into Bolshevism (wholesale destruction). In his consultation with medical men, discrimination should be the watchword of every dentist. Poor teeth became, and still are, in the eyes of many medical men and some dentists, the whipping boy for all ailments from homesickness to housemaid's knee. Often the poor patient, presented with the ultimatum, "your teeth or your life", parts with his teeth to retain a life, which for a couple of years at least becomes such a burden that I fear he often regrets his choice.—*Monk, Dent. Mag. and Oral Topics.*

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Soap has a powerful bactericidal effect on haemolytic streptococci. The solution made by working up a cake of yellow soap in a pint of warm water for two minutes, kills these cocci more efficiently and more quickly than lysol (1-160) or perchloride of mercury (1-1000). Toilet soaps are not so effective.—*British Medical Journal.*

Doorplates in Britain

A matter of considerable interest arose from the Report of the Penal Cases Committee, as to the propriety or legality of retaining the name of a dental surgeon upon premises after he has ceased to occupy them for professional purposes. The opinion was expressed that to this, exception might be taken by the Disciplinary Committee of the Dental Board, as a covering offence, and it was pointed out that such an announcement of a name no longer appearing on the register would almost certainly be objected to. On the other hand, the suggestion was made that if in either case the term "late" were prefixed no question might be raised.

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Bee Venom for Rheumatism

Hippocrates treated rheumatism with bee venom. French medical teachers checked up on this and were surprised that it was bona-fide. Bees were allowed to sting the patient and it was noted, produced less pain in one afflicted with rheumatism. Solutions of bee venom may be used hypodermically. Sciatica, arthritis, rheumatic pains, lumbago have yielded good results.—*J.A.M.A.*

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Penny a Month School Dental Service

West Suffolk is about to experiment with a scheme of voluntary contribution for school dental treatment. It is suggested that parents voluntarily donate 1d. a month for ten months for each child attending school, to allow for dental service. A child requiring no treatment during school life received a refund of his total contribution. Lord Loch, chairman of the Educational Committee, was in favor of the idea and hoped any difficulties might be overcome.—*Oral Topics.*

Dental Caries in Prehistoric Skulls from Canada*

By

Douglas Leechman

THE purpose of this paper is to record the results of an investigation into the incidence of dental caries in the Canadian Indian and Eskimo skulls in the collection of the National Museum of Canada. A total of 391 skulls and mandibles, or fragments thereof with teeth in situ, and a large number of loose teeth, were examined. The geographical distribution of these is shown in Table 1.

More precise details of distribution will be found on the accompanying map.

In addition to 3,938 teeth still in place, 1,089 loose teeth were examined, making a total of 5,027 teeth.

The geographical distribution of

carious teeth was markedly localized, as will be seen on reference to Table 2.

TABLE 1

Locality	Number of skulls or mandibles
Newfoundland	1
Quebec	7
Ontario	208
Arctic	67
Manitoba	40
Saskatchewan	2
Alberta	3
Great Slave Lake	1
Br. Columbia, Interior..	34
Br. Columbia, Coast	27
Alaska Coast, Indian Area	1
Total	391

TABLE 2

	Teeth in Situ				Loose Teeth				
	Sound		Carius		Sound		Carius		TOTAL
	Adult	Juv.	Adult	Juv.	Adult	Juv.	Adult	Juv.	
Newfoundland.....	12								12
Quebec.....	74		6		19				99
Ontario.....	1153	387	330	39	593	113	252	5	2872
Arctic.....	486	27			42				555
Manitoba.....	461	77			13				551
Saskatchewan.....	36								36
Alberta.....	11	7							18
Great Slave Lake.....	29								29
British Columbia, Interior.....	373	22	2		25				422
British Columbia, Coast.....	386	8			25				419
Alaska Coast, Indian Area.....	14								14
TOTAL.....	3035	528	338	39	717	113	252	5	5027

*Published with the permission of the Acting Director, National Museum of Canada, Department of Mines, Ottawa.

Reference to the map will bring out very clearly what is, probably, the most important result of the examination of these skulls. It will be noted that, with the single exception of one skull (quite possibly post-European) from Lillooet, in the interior of British Columbia, the only carious teeth are from Quebec and Ontario, and that these are from an area in which the aborigines practised agriculture, and whose diet consisted largely of maize (Indian corn) and other soft, boiled foods.

The district in which aboriginal agriculture was practised in Canada is included in a somewhat larger area in which the sugar

maple flourished. It is unfortunate that no skulls have been available from that part of the sugar maple district which is beyond the limits of native agriculture. If teeth from this area, such as Ojibwa material, were found to be carious it might throw some light on the vexed question of sugar as a causative factor in the development of caries.

In the specimen from Lillooet referred to above, the second and third right upper molars are carious. In the Quebec and Ontario specimens, the molars were more often attacked by caries than were the other teeth, as will be seen on consulting Table 3.

TABLE 3

JUVENILE, ONTARIO

	Sound	Carious	% Carious
Central Incisor.....	54	0	0.00
Lateral Incisor.....	65	1	1.51
Cuspid.....	66	5	7.04
1st Molar.....	78	13	14.28
2nd Molar.....	76	17	18.28
1st Permanent Molar.....	48	2	4.00

ADULT, ONTARIO

Central Incisor.....	114	12	9.52
Lateral Incisor.....	154	15	8.87
Cuspid.....	196	45	18.67
1st Bicuspid.....	178	50	21.93
2nd Bicuspid.....	185	39	17.41
1st Molar.....	131	71	35.14
2nd Molar.....	113	61	35.05
3rd Molar.....	84	37	30.57

ADULT, QUEBEC

Central Incisor.....	9	0	0.00
Lateral Incisor.....	10	0	0.00
Cuspid.....	11	0	0.00
1st Bicuspid.....	8	0	0.00
2nd Bicuspid.....	7	1	12.50
1st Molar.....	13	2	13.33
2nd Molar.....	11	2	15.38
3rd Molar.....	6	1	14.28



Dots indicate sites from which skulls examined.

Shaded portion shows range of sugar maple in Canada.

Area of aboriginal agriculture enclosed by heavy lines.

It is important to note here the results of two similar investigations; one, made by R. W. Leigh, and published in the *American Journal of Physical Anthropology*, 8: 179-199, 1925; and one, made by G. E. Kidd and G. E. Darby, published in June, 1933, as a mimeographed bulletin by the City Museum and Art Gallery of Vancouver, British Columbia.

My attention has been called to a paper by Goldstein, (Caries and attrition in the molar teeth of the Eskimo mandible, *Jnl. Phys. Anthropol.* 16. 421-430, Ap-Je, 1932) in which he records an incidence of 6.6% in the examination of 807 Eskimo mandibles.

Mr. Leigh examined teeth from four Indian groups: Kentucky Algonquins, Sioux, Arikara and Zuni. Caries was infrequent among the Kentucky Algonquins, almost negligible in the Sioux, twenty-eight per cent. of the Arikara skulls showed caries, and seventy-five per cent. of the Zuni. These latter were also an agricultural people, with a diet not unlike that of the Quebec and Ontario Indians, who also show a high percentage of caries: 39% for the Ontario juveniles; 67% for the Ontario adults; and 40% for the Quebec adults. There were no juvenile skulls from Quebec in the collection of the National Museum of Canada. These percentages are based on the incidence of caries in teeth in situ only, as it is generally impossible to say whether loose teeth should be

assigned to one or to several individuals.

In the paper "Dentition of the Prehistoric Coast Indian" by Kidd and Darby, referred to above, it is recorded that on examination of 137 "sets of teeth, upper and lower, no single case of caries was found."

Many of the skulls from Ontario in the National Museum of Canada collection showed shockingly diseased conditions. In one case 14 out of 22 remaining teeth were carious; in others 10 out of 17, 12 out of 23, and 14 out of 21. Some skulls were almost entirely toothless, and while it is hardly safe to attempt to diagnose the cause of ante-mortem loss of teeth, it was evident that most of the losses were due to very severe cases of caries.

Among children, too, conditions were very bad. One case was observed in which eight out of nineteen remaining teeth were diseased, and other cases were so advanced that there was little hope that the permanent teeth could escape infection.

It is difficult, in many cases, to determine whether Indian skulls are, or are not, pre-European. Fortunately it is certain that the great majority, if not all, of those examined from Quebec and Ontario do date from a period prior to the advent of the whites. Most of those from Ontario are from a pre-European village at Roebuck, and of the remainder, many were obtained from pre-European ossuaries.

The Future Trend of Anesthesia in Dental Surgery

F. W. Saunders, D.D.S., L.D.S.

Dental Surgeon-in-Charge,
Royal Victoria Hospital, Montreal

*Read Before The Toronto
Academy of Dentistry,
Toronto, January 12th, 1934.*

NEARLY every paper on Anesthesia starts out with the history of the subject, so let us wave that to a certain extent. I would, however, like to start in about 1912 or 1913, when I first came into contact with Dental Anesthetics, during my Dental School days. In those days, we were led to believe that it was improper to do any dental work, other than extractions, with the aid of anesthesia. Cocaine solutions were provided in the extracting room of the school and Ether or N_2O was used in cases where several teeth were to be removed. Ethyl Chloride was always used for deciduous teeth; no wonder the children of that day are still leary of the dental chair. I do not know whether or not I was ever told how the solution of Cocaine was compounded—I must have been though—however, when asked in my examination for a license, the maximum dose of Cocaine, I remember quickly calculating how much I had seen the instructors use at the Clinic and answered—one and one-half grains. So, I had to wait another year before I could practise. It appears the Examiners wanted to know how much Cocaine a dentist could give a patient by mouth or in the arm

in case business got dull and he had to sell dope.

ANESTHETICS ON SALISBURY PLAIN

WELL, after my third year was completed, I joined the Army and, eventually, found myself extracting teeth for the troops on



DR. F. W. SAUNDERS

Salisbury Plain—all dentists attached to the First Canadian Contingent being on leave or ill. No Anesthetics were available, so I had the Sergeant-dispenser make me up a one per cent. solution of Cocaine. I remembered that it was on the label of the Cocaine bottle at the school clinic. It did not seem to help any and I did not realize, until my return to school, that the aid of Adrenalin was essential.

In the Spring of 1916 Dr. Dohan came down to the school clinic and showed us it was possible to Anesthetize a tooth with Novacaine and then prepare a cavity or remove a pulp painlessly. A few of us purchased a syringe and some Novacaine tablets but we did not use a Ringer's solution at first. We were not allowed to use a local Anesthetic on our examination cases, but I remember injecting cases for the Junior men at that time, and it was then that Dr. Thornton called me into his office and said, "Saunders, as sure as there is a God in Heaven, you will get into trouble using that stuff; it has no place in Dentistry."

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DIFFICULTY OF LAUNCHING A NEW ERA

I am telling you this to try and point out how difficult it is to launch a new era upon our profession. The remarkable advance in the perfecting of local Anesthetic solutions is familiar to you all, but in spite of manufacturers' claims, the solutions as we purchase them today, are not ideal. Numerous so-called after-effects still exist, so much so, that some of the manufacturers have recently applied themselves with renewed vigor in an attempt to eliminate these effects. I wonder if any of you have had the privilege of reading Dr. Leo Winter's article, in the *Dental Outlook* for December, 1933? This article was read before the King's

County Dental Society, Brooklyn, on November 9th, 1933. In this article Dr. Winter states that he, in conjunction with the Chemists of the Winthrop Chemical Company has presented to the profession a new Local Anesthetic containing 3, 4, Dihydroxy-phenyl-amino-propanol Hydrochloride replacing Epinephrin. Dr. Winter's claim is that the by-effects produced upon the injection of a local anesthetic containing Epinephrin are brought about by a central stimulation through the Vagus Nerves and not merely due to an abrupt rise in blood pressure consequent upon a vasomotor peripheral constriction. Now this new Ischemic agent is tolerated without by-effects even in patients with Hyperthyroidism or Arterio-sclerosis and high blood pressure. For a long time, these chemists had been working along the line that many of the defects of Novacaine solutions were due to the hydrogen ion concentration and they did, I think, eliminate many.

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HOPE FOR THE FUTURE

The very near future I am sure, will present a local Anesthetic solution which will be tolerated by body tissue without these by-effects. I might state here, a Novacaine solution requires more of this new Ischemic agent in it than it did of Epinephrin to produce an equivalent Anesthesia. If the operator requires an Anesthesia of longer duration than Novacaine can supply, a one per cent. solution of Nupercaine (CIBA) can be used, but, as yet, it is quite toxic. Nupercaine for topical application is so powerful that comparatively loose teeth can be removed without pain following its application to the Mucous Membrane—a hint to those who do Prophylaxis.

GENERAL ANESTHESIA

So far, I have confined my remarks to local Anesthetics, but in my practice and in my hospital work, I prefer to use general Anesthesia wherever possible, and, I think, I have been unconsciously swayed in this direction by a hope of avoiding these by-effects produced by local Anesthetics, even though I am of the opinion that the majority of these so-called by-effects are physic.

The use of Chloroform, Ethyl Chloride, Ether and Alcohol Chloroform and Ether is familiar to all of you, and I do not think it is necessary to spend any time on those agents. Ethylene is a substance I have had very little experience with, so I will avoid it. Nitrous oxide and Oxygen are Nitrous oxide with C_2O_2 I have used extensively, as most of you have. A few years ago, we started using it intra-tracheally in our cases at the Hospital where we expected to be any length of time and where we needed a smooth Anesthesia. But, here I found that unless the Anesthetist was especially trained or the patient very fully premedicated, the Intra-tracheal N_2O case turned into an intra-tracheal ether case. So, as soon as Dr. Wesley Bourne introduced the use of Avertin to our city I was one of the first to demand its use for my patients. I hope you have all read his article in the December 1932 issue of *Oral Health*, and those who were interested looked up the references there quoted at the end of his article. In case some of you are not familiar with the drug, let me describe it to you—its composition, its administration, and its effects.

Chemically, Avertin is Tribromethyl Alcohol $C_8H_7Br_3O$. It is a Chrystoline substance which is soluble in water of 40 degrees C. At a higher temperature than this,

decomposition takes place, so the solution is always tested with a drop of Congo Red 1: 1000, which should remain pink. Avertin is now put up in fluid form which is 100% solution of the Crystals in Amylene Hydrate and one C C of this solution is equal to a gram of the Crystals. The safe dose is one 10 C C Avertin fluid per kilogram body weight; so the patient should be weighed accurately. A little less should be used in the aged—a little more in children and young adults. Pour the solution calculated into warm distilled water (40 degrees C.) making a 2.5 per cent. solution, allowing this solution to run into the rectum very slowly; take about ten minutes to accomplish this—your patient will quietly drop off to sleep in about 15 minutes, and what a pleasant, quiet sleep!

RECTAL ANESTHESIA

If Anesthetic is being administered to a hospitalized patient, it is wise to do all this in patient's room where everything is quiet, and patient should not be moved until profound Anesthesia is noted i.e., about 30 minutes and patient will remain asleep for four or five hours. If your operation is to last more than an hour, it may be necessary to employ N_2O to retain perfect immobility of patient, but a 50% mixture with Oxygen will be found adequate.

You will enjoy working on the mouth of a patient so anesthetized, because you will encounter no saliva, no mucous, no spasms and coughing, no nausea, and so the bleeding is easily controlled. Upon waking, hours afterwards, the effects of the Trauma you have caused are wearing off, there being a minimum of Trauma in most cases, because the operator has not found it necessary to hurry and the patient invariably will refer to the pleasant sleep and will usually turn

over and resort to more sleep. I will not burden you with the effects of the drug upon the different organs of the body, suffice is to say, the effects are not nearly as great as in the case of Ether, etc.

Avertin is of special use to the dentist in difficult extractions, full mouth extractions, removal of impacted teeth, cysts, etc., and more especially in the setting and wiring of fractured jaws. To those of you who demonstrate at clinics the removal of impacted teeth, it is an ideal Anesthetic (Saranac Lake Clinic). Yes, it can be used in those offices equipped with a bed or operating table.

Avertin is only one of a multitude of Anesthetics which have come to the fore lately; some will be used, and some discarded.

Di vinyl Oxide Vinyl-ether is one that will be employed as an aid to N_2O and O, more in the near future. Two inhalations of Vinyl-ether will carry some of your most obstreperous patients over the exciting stage into profound Anesthesia. As far as I know, it has not been used on humans enough as yet, to pass upon its efficiency. I have seen it used only once, but the results are marvellous.

Cyclopropane—you must all know of it. If not, you should. It was discovered by Henderson and Lucas of the University of Toronto.

These Toronto professors unhappily restricted their early experiments to animals alone and it was left to Ralph Waters of the University of Wisconsin to apply it clinically. He did so in 600 cases, with wonderful results. It has all the advantages of N_2O & O with this in addition. It produces a relaxation of muscles that Ether does. Why isn't it used instead of N_2O ? Because, as yet, the cost is prohibitive—fifty cents a gallon.

Now we come to the Barbiturates. I couldn't begin to tell you the different formulae that have

been compounded: some good Anesthetics, some good Hypnotics, some deadly poisons. Here are some you will recognize:—Veronal, Amytal, Dial, Nembutal, and last, but not least—Evipan.

The Barbiture Acid Derivatives:—By replacing the two Hydrogens with any one of several different chemical groups, one gets a Barbiturate.



NEMBUTAL

You all know the action of Nembutal and no doubt a number of you use it in your practices, and one of the reasons it acts differently in different persons is because it is more readily absorbed in the stomachs of some people than in others. It can be and is sometimes given by rectum where it is more readily and more evenly absorbed.



INTRODUCED FROM LONDON

Now let us discuss Evipan—or E 334-1—as it is sometimes called. Evipan is a comparatively new Anesthetic on this continent and one that has a big future in dental surgery. I have been using it for some time past at the Royal Victoria Hospital, and with, I think, splendid success. As far as I can ascertain, it was introduced to this country by Dr. Gavin Miller, of our hospital, who watched Drs. Abel and Jarman use it in London. It is the Sodium Salt of N-Methyl-Cyclohexenyl-methyl-barbituric acid. It is readily soluble in water, but staple only for an hour. It is supplied as a powder in Ampules. Each Ampule containing one gram of Sodium Salt to be dissolved in 10 C C distilled water just before use, thus furnishing a ten per cent. solution. No premedication of patient is necessary. It is advisable, but not necessary, to refrain from eating. A 10 C C syringe with Intra-

venous needle is necessary. Locate the median basilic vein in the arm. If difficult to see, tourniquet the arm, wipe the area with Alcohol and slowly inject solution into the vein. Have the field of operation ready. A patient will be anesthetized in about 15 seconds and will remain so for from 15 to 20 minutes. Time enough to do the majority of dental surgical operations; if not, it can be followed with N_2O . I, personally, have not tried a second injection to prolong the Anesthesia, but Jarman and Abel report that they have satisfactorily done this, on three occasions.

Its advantages are as follows:—safe, speedy, profound Anesthesia; no expensive equipment, can be used anywhere; patients do not fear it; no nausea; quick return to sensibility. There is no preliminary sign of excitation. Respiration remains regular and deep. The appearance of mucous membrane remains natural; pulse remains strong and regular. Although, because Evipan is a volatile substance, the Anesthesia must be defined as uncontrollable, yet the detoxication by the liver proceeds so rapidly that the Anesthesia approaches very closely to controllable Anesthesia. Awakening usually takes place in a few minutes, but it is deemed wise to insist on an hour's rest, and whereas some recommend the use of Pantapone during the awakening stage, I do not think it is at all necessary. I strongly recommend to you the use

of Evipan in Exodontia and Minor Oral Surgery.



SUMMARY

I have traced the advance in Anesthesia during the last twenty years as applied to dental surgery, an era which has been a boon to both patient and operator; an era which has removed most of the fear the patients have had of our operations upon them and from this résumé, I think we can draw these conclusions: that Ether has very little, if any, place in our work; that we should avail ourselves of the results of these men who are continually bringing forth new and more effective Anesthetics, and that the time is not far distant when general Anesthesia will be so simple that it will be given by mouth. It will be rapid and more or less controllable as to its duration. Even now it would be possible to produce an effective Anesthesia to be given by mouth could we control the absorption by the stomach. I think also that, although I have not stressed the point throughout my remarks, it is quite evident that operations upon the Oral Cavity, and this includes all operations other than simple extractions, should be performed in fully equipped operating rooms, and that men interested in this line of endeavor should avail themselves of hospital accommodation.

A Suggested Outline of Lectures on Dental Hygiene to Nurses

Adopted by the Ontario
Dental Educational Committee

General Introductory Talk

TRY to impress on the class the value of such knowledge to the professional nurse. Nurse should be capable of giving correct advice about daily care of the teeth; tooth brushes and dentifrices; to detect threatened dental deformities, diagnose causes of toothache and apply simple remedies. Also should be able to make intelligent records about such matters for the attending physician, and to answer the anxious inquiries about the time and order of eruption of the different teeth, etc., etc.

Functions of Teeth

They are the organs of mastication; aid in giving expression to the face, and assist in articulation or speech.

Give here a general talk on the different teeth that go to make up the complete set in the human mouth; their individual characteristics and uses.

At this point take up a little comparative dental anatomy. (Read *Broomell* or *Underwood* or *Thompson* on this subject.)

Describe by means of a chart the different parts of a tooth. Have something interesting to say about each of these parts.

At this point take up the subject of the calcification and eruption of the teeth. Make out a table showing the period and the order of calcification and eruption of complete sets of temporary and permanent teeth. (See attached table.) Give

a little attention to developmental defects on teeth as a result of certain diseases peculiar to children. **Local and Constitutional Disturbances Attending the Eruption of Temporary Teeth**

Take up this subject rather fully, giving symptoms and simple home remedies. (On this subject read *Barrett* or *Holt*.)

Importance of sound temporary teeth to the child. Necessity for strict periodical examination; evil results attending neglected teeth at this age; such as impaired digestion, contracted arches and crowded teeth. Add something here about nasal obstructions and mouth-breathing and thumb-sucking. Picture the mouth-breather with the contracted and protruded upper arch, receding chin, vacant look, hollow chest, sub-normal intelligence, etc., etc.



DISEASES OF THE TEETH

Caries or Decay

The answer to the question "Why do teeth decay?" should be made very plain to the class, so that the members will scientifically understand why a clean tooth surface is comparatively immune. (Read *Miller* and *Black*.)

Pulpitis

Causes, symptoms and simple home remedies. In specifying these remedies the lecturer is not

expected to go beyond those generally found in the home or the nurse's kit.

In the case of pulpitis we might include such remedies as—washing out cavity with warm water—protecting it from pressure of food while eating—oil of cloves on cotton—counter irritants—hot foot bath, saline cathartics, etc.

Pericementitis

Causes, symptoms and simple home remedies such as hot foot baths, counter irritants, saline cathartics and giving the part a rest.

Alveolar Abscess

Description of, and causes; symptoms, and simple remedies, such as hot foot baths, hot poultices of raisins or figs on the gum over the offending tooth; laxatives and cathartics. Also evacuation of pus.

Pyorrhea Alveolaris

General description of, symptoms, and causes. Neglected and ill-kept mouth a frequent cause. Trace history of a case from simple gingivitis and neglected salivary calculus to pronounced pyorrhea.

Effects of Pyorrhea

(a) Locally: soreness of teeth to percussion, inflamed gums, local abscesses, pus exuding into the mouth, loosening, and eventually loss of tooth.

(b) Constitutionally: an impaired digestion from faulty mastication, septic poisoning from the continued swallowing of pus, etc.

Preventive treatment, which just means use your teeth and keep them scrupulously clean.

Home remedies: give tooth rest, use counter irritant and strict cleanliness.

(Read chapter on this subject in Buckley's "Dental Medicine" or Johnson's "Operative Dentistry".)

Evil Effects of Diseased Teeth and Neglected Oral Cavity on the General Health

On this subject read "Hunter's Oral Sepsis".

Trace to oral sepsis such ailments as enlarged glands, inflamed tonsils, septic catarrh of stomach, indigestion, persistent anemia, tuberculosis, etc., etc. (See *Miller*.)

For the evil results arising from an impaired masticatory apparatus read an article by Horace Fletcher in the *Ladies' Home Journal* in September and October of 1909.

Proper Daily Care of the Teeth

On this subject give in detail the care of the teeth during one whole day. A talk on tooth brushes and how to use them, dentifrices and mouth-washes.

Importance of a Clean Oral Cavity During Sickness

(Gain information on this subject from "Hunter's Oral Sepsis".)

If patient is too weak to use brush, have mouth rinsed or swabbed out with some such antiseptic solution as a few drops of phenol in borax water. May use feeding-cup for this purpose.

A short talk on care of the teeth during periods of pregnancy and nursing.

Diseases of the Soft Tissues of the Oral Cavity

Take up at least the following, giving symptoms, causes, and simple remedies: stomatitis, thrush, aptha ulcer, marginal gingivitis, tobacco sore mouth, and syphilitic sores.



FOOTNOTES

(1) Lecturers are advised to impress on the nurses the necessity of reporting to the physician the presence of all pathological conditions of the mouth. Be careful to emphasize the fact that all treatment should be in accord with the wishes of the attending physician.

(2) For any further information in reference to these or other lectures apply to the Provincial Education Committee through the Secretary, Dr. R. J. Reade, 2 Bloor St. West, Toronto. Also the necessary charts or lantern slides for illus-

trating these lectures may be obtained through the same committee.

(3) The foregoing outline of lectures should be modified and rearranged to meet the needs of individual cases.

PERIODS OF CALCIFICATION AND ERUPTION OF TEMPORARY AND PERMANENT TEETH

Temporary Teeth

		Calcification begins		Calcification complete	Eruption (about)
2 Lower Central Incisors	4th	Foetal	Mth.	17th to 18th Mth.	6th to 8th Mth.
2 Upper Centrals	4th	"	"	17th to 18th "	7th to 8th "
2 Lower Lateral Incisors	4th	"	"	14th to 16th "	7th to 9th "
2 Upper Lateral Incisors	4th	"	"	14th to 16th "	8th to 9th "
4 Cuspids	4th	"	"	20th to 22nd "	17th to 18th "
4 1st Temporary Molars	5th	"	"	18th to 20th "	14th to 18th "
4 2nd Temporary Molars	5th to 6th	"	"	20th to 22nd "	18th to 24th "

Permanent Teeth

1st Molars	8th	Foetal	Mth.	9th to 10th	Year
L. Cent. Incisors	1st	Year		10th to 11th	"
U. " "	1st	"		10th to 11th	"
Lateral Incisors	1st	"		10th to 11th	"
1st Bicuspids	4th	"		11th to 12th	"
2nd "	5th	"		11th to 12th	"
Cuspids	3rd	"		12th to 13th	"
2nd Molars	5th	"		16th to 17th	"
3rd "	9th	"		18th to 20th	"
					17th to 23rd "

● Suggestions for the Care of the Teeth

Brush the teeth upon rising in the morning and before retiring at night, and if possible after each meal. Use a small brush and plenty of water. At least once a day use a dentifrice recommended by your dentist. After brushing always rinse the mouth with an abundance of water.

Brush the outer surfaces of the teeth by placing the bristles of the brush against the gum and rotating toward the grinding surfaces—the

uppers downward, the lowers upward.

Brush the inner surfaces in the same manner as the outer—from the gum toward the grinding surface. Brush the grinding surfaces in all directions.

If particles of food still remain between the teeth, remove with a small quill toothpick. Never use wooden ones for this purpose.

Consult a dentist as often as he advises.

It is very important that the teeth be thoroughly brushed just before retiring.

Cheap Materials a Source of Danger

An Address by
Prof. Thomas Cowling
of the University of Toronto

THE dangerous consequences which might result from dentists using inferior metals in the manufacture of bridgework or as fillings for teeth, under the stress of present economic conditions, were emphasized by Prof. Thomas Cowling, of the department of dental metallurgy of the University of Toronto, in an address delivered to more than 50 members of the Hamilton Dental Society at the monthly meeting in the Royal Connaught hotel. With the heavy surcharge on gold there was a possibility, suggested the speaker, of dental surgeons looking for alternative means of serving clients with a minimum of expense. The use of some substitute for gold or alloys of the platinum group might quite easily prove disastrous to the health of those treated. Professional integrity was also certain to suffer.

FALSE ECONOMY

THE use of cheaper materials would be false economy, declared Prof. Cowling, who gave to the meeting his views, reached after considerable research, of several of the newer alloys, whose properties he explained. He enumerated the possible dangers attending the utilization of stainless steel in dental work.

Use of alloys of the platinum group was urged on the profession, since it had been found possible to produce combinations that will meet all modern requirements in

the field which engaged his hearers. There was no surcharge on platinum, said the speaker, and it would be folly to depart from its use.

Prof. Cowling was introduced by Dr. John Brown, who, as a classmate, was able to speak intimately of the attainments of the guest-speaker.

STUDENTS APPRECIATIVE

DURING the business session, which preceded the address, Dr. L. A. Kilburn, president, was in charge. Among the communications read by the secretary, Dr. Prowse, was a letter of appreciation from Carl W. Pfanner, president of the fifth year student body of the Dental College, University of Toronto, for the wonderful entertainment provided the senior class on the occasion of its visit to Hamilton, December 15. The host on that occasion was Dr. J. L. Carroll, who was highly commended by his colleagues for the initiative shown toward the student group.

Another letter was from the local chamber of commerce suggesting that an attempt be made to secure this year's annual dental convention for Hamilton.

As has been the practice with the society for some time, the members were furnished a buffet luncheon in the grill room. Those in charge of arrangements were Dr. Jackson and Dr. Roy Davis.

Osteomyelitis of the Jaw

Mayo Foundation

THE jaw bone is eighth in order of frequency of involvement of osteomyelitis. The bones most often involved are, in order of frequency, the femur, tibia, humerus, radius, ulva, vertebra and calcaneus. The lower jaw is affected four or five times as commonly as the upper jaw. Among very young children, however, the upper jaw is more frequently affected than the lower. The disease affects males more often than females, probably because the male is more often exposed to trauma. The largest number of patients are between the ages of twenty and forty years.

Trauma plays an important part in causing osteomyelitis, either by providing a break in the tissues, through which infection may enter, or by producing a region of decreased resistance, in which blood-borne infection may localize and develop. Such trauma may vary widely in severity from an injury producing fracture of the bone and lacerating of the soft tissue, to one which is so slight as to be scarcely noticeable.

Osteomyelitis of the jaws may arise from periapical abscesses, especially when extraction is done in the presence of acute inflammation, or when the tooth socket is packed or curetted after extraction. Also, it may follow various operative procedures on the jaws or teeth, such as the removal of cysts, or the now largely abandoned use of carbolic acid or arsenic in the treatment of pulp chambers.

Acute osteomyelitis of the blood-borne variety may come from lesions such as faruncles, carbuncles, acutely inflamed tonsils, lesions in the alimentary or genito-urinary

tracts, or it may appear during the course of some systemic disease, as influenza, typhoid fever or small-pox.

The pathological changes and pathogenesis of osteomyelitis of the jaws differ somewhat from those of the disease when it affects the long bones, due to certain peculiarities in the blood supply and structure of the jaws. In the long bones it is generally understood that infective material in the blood stream lodges in capillary terminals in the region of the epiphysis, there to develop a focus which spreads in the path of least resistance, either in the madulla or along the epiphyseal line to penetrate the cortex and burrow subperiosteally. In the jaws, however, there is the anatomic peculiarity that large portions of each bone receive their blood supply through multiple arterial loops derived from a single vessel. When an infective process involves one of the lesser loops there is only a minimal loss of bone, but if the main vessel becomes involved in an inflammatory process, and is occluded by a thrombus the entire bone may be lost. In addition there is no opportunity for pus to remain confined in the jaws for a considerable time, as it may be confined, for example, in the upper end of the tibia. This is because the bones of the jaws are very thin, in many places, and in others are provided with regions of diminished resistance by the sockets of the teeth. Thus a suppurative process quickly finds a point of exit and drains itself.

The symptoms of osteomyelitis of the jaws vary considerably. In cases in which extraction of the

teeth or other operative trauma has occurred, there is usually a sharp local reaction within a few hours, with swelling, pain, elevation of temperature and general malaise. In the occasional fulminating case the condition may progress rapidly to a fatal termination. Usually, however, in a few days sufficient drainage is established to lessen the pain and lower the temperature, following which there ensues a long period during which there is drainage of purulent material and ultimately sequestra are discharged before healing can take place. In cases in which the condition arises in the course of a systemic infection, the general symptoms of osteomyelitis may be masked by those already present, and the condition may be recognized only by local signs. In cases in which the disease occurs as a complication of fracture or of some operative procedure in which the wound is wide open, little disturbance may be noted other than local swelling and the appearance of purulent discharge.

In osteomyelitis of the maxilla that occurs in nurslings and infants the picture usually is characteristic. Much has been written about this condition, and it is regarded by some writers as a separate entity. However, the underlying pathological change is the same as that which occurs among adult subjects, except as modified by the fact that the maxilla of the infant is composed of a greater proportion of cancellous bone, with numerous tooth buds, some of which lie close to the orbit. The disease occurs in infants aged from two weeks to nine months, the onset is sudden, the child is acutely ill, and death may quickly ensue. Early signs usually are, marked swelling of the lids of one eye, unilateral purulent conjunctivitis and nasal discharge, together with swelling and softening of the upper gums and of the

palate on the same side. Trauma, such as might occur from injuries received at birth, from the nursing bottle or from the fingers of the nurse when cleansing the child's mouth, is thought to be the chief factor in causing this disease, although undoubtedly in some cases it arises from a blood-borne infection secondary to conditions such as furunculosis or impetigo. In approximately a fourth of these cases the disease progresses rapidly to a fatal termination. In the remainder, the course of the disease is similar to that of adults.

The most common complication of osteomyelitis of the jaw is formation of abscess in the adjacent soft parts, due either to direct extension or to suppuration of the regional lymph nodes. Septicemia with its grave prognosis is encountered occasionally, sometimes appearing early so that it may be questioned if the osteomyelitis arose from the septicemia, or the reverse. Rarely phlebitis may occur in the facial vein with upward spread to produce thrombosis of the cavernous sinus. Cerebral abscesses, meningitis, pansinunitis, erysipelas, and tetanus have all been noted. Late complications sometimes seen are deformities of various types due to loss or maldevelopment of bone, and ankylosis of the temporomandibular joint due either to destruction of bone in the region of the glenoid fossa or to scarring of the soft tissues.

The diagnosis of osteomyelitis of the jaws must be made largely on the history and objective findings. Very early in the disease the roentgenogram gives little if any information. Certain blood dyscrasias, notably acute leukemia and agranulocytic angina, occasionally give rise to extensive necrotic lesions of the jaws, but in such conditions the lesions are likely to be bilateral, and examination of the

blood, which should be made in all cases, will point the way to the proper diagnosis.

Actinomycosis rarely should cause confusion, for the process is slow in onset, usually requiring two to six weeks or longer to develop. Infected cysts or odontomas may give rise to acute symptoms, but ordinarily it is possible to demonstrate these by means of roentgenograms.

Only a relatively small percentage of patients die, except in the

group of cases occurring among infants and nurslings, in which the mortality rate is 25%. By attending to proper drainage and by removing sequestra when indicated, it is possible to have the lost bone almost entirely replaced by new bone with avoidance of great deformity and interference with function. It is very important that plenty of time be allowed for the involucrum to form and for the sequestrum to be well separated before removing it.—F. J. HAZEN, *Oral and Plastic Surgery Section.*

DENTAL SOCIETIES

Dentists Name McCarten Head of Association

Question of Pay for Treatment of Unemployed to be Taken Up

Dr. D. A. McCarten, of Winnipeg, was re-elected president of the Manitoba Dental Association at the annual meeting held in the Fort Garry hotel.

The question of remuneration for attendance on patients who are on unemployment relief, which has for some time been a sore question in medical circles, made its way into the dental profession, and a committee was appointed to interview the provincial government on the question.

It was pointed out that at present the only remuneration dentists receive for attending those on relief was a maximum charge of two dollars for extractions, which is paid by the city of Winnipeg. An effort will be made to get the provincial government to contribute. The committee named comprises Dr. W. W. Wright, Dr. E. L. White, Dr. E. Roy Bier, and Dr. James Dow.

Dr. N. S. Bailey, of Portage la Prairie, was re-elected vice-president. A new member of the executive, chosen at a recent meeting, is Dr. A. E. Proctor, who succeeds Dr. W. W. Wright, who retires after eight years' service. Members of the executive who have another year to serve are: Dr. J. F. Morrison, Winnipeg, registrar; Dr. E. L. White, Winnipeg, treasurer; and Dr. C. L. Strachan.



Dental Auxiliary Musicales Has Many Good Artists

Mrs. E. L. Miller, Mrs. R. Walker, Mrs. Kathleen Timmins Ward and Mrs. Murray Robb, accompanied by Mrs. James Howie and Mrs. Vernon Fisk, gave a musical program at the meeting of the Dental Auxiliary and their guests in the Round Room, at Eaton's. Mrs. John A. Bothwell presided, and plans pertaining to benevolent work of the auxiliary were discussed.

Essex County

The Dental Profession of Essex County strongly support Dr. Biehn against criticism which arose at a meeting of the Windsor school board. The resolution follows:

"Recognizing that the general spirit of unrest existing in these troublesome times seems to breed amongst a certain type of citizen an unhappy condition of mind, which apparently can only find satisfaction in voicing criticism of vested authority or of individuals occupying public positions, yet we deem it unfortunate that such individuals should attempt to criticize the professional ability of a member of our profession, one who amongst those capable of judging his splendid qualifications, namely his fellow practitioners, occupies an unusually high position in our regard.

"Therefore we have decided to inform the members of the Board of Education, firstly, of our resentment against those not qualified appearing before their honorable board and attempting to criticize the ability of one of our members; secondly, to assure them that Dr. Biehn enjoys the united confidence of the members of the Essex County Dental Association as well as the respect and regard of a very large number of dental surgeons throughout Ontario; and further, that Dr. Biehn is the present vice-president of our society."

Dental Nurses' Alumnae

Barry Nivett addressed the Dental Nurses' Alumnae Association at its dinner meeting at the Diet Kitchen, Toronto. Miss Adele Cameron presided, and welcomed Dr. A. E. Webster, an honorary member, and Miss Edna Sharpe, a life member.

Ovaltine Dental Clinic

A dental clinic has been begun by the Ovaltine Co. for their employees, under the able direction of Dr. J. E. Middleton in collaboration with Peterborough Dental Society.

Canadian Club

The recently formed Canadian Club of Glasgow continues to grow in strength.

We are very pleased to note that our Associate British Editor, Dr. J. Menzies Campbell (U. of T., 1912) was re-elected to the Committee.

Mouth Health Campaign in New Brunswick

Dr. Harry S. Thomson of Toronto, field secretary of the Canadian Dental Hygiene Council, is in Saint John preparing for the launching of a campaign for mouth health. The campaign is being sponsored by the provincial department of health, and arrangements have been completed for Dr. Thomson to address the heads of the various health services in the province at a dinner in the Admiral Beatty Hotel.

The campaign which the Canadian council is furthering is one of education, to point out the importance of proper mouth condition and the many factors which contribute to such health.

Heard at Dinner

Members of the Saint John Dental Society held a dinner at the Royal Hotel, being addressed by Dr. Thomson on "Children's Dentistry".

With reference to the campaign, Dr. Thomson said, "New Brunswick already occupies a very enviable position among the provinces of Canada from the standpoint of matters of health and education of the people in matters pertaining to

their physical well-being. Now it is proposed that the Canadian Dental Hygiene Council, working in co-operation with the provincial departments of health and education, and the New Brunswick's Dental Association, will carry the gospel of preventive dentistry to every man, woman and child in a province-wide campaign."

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Credit Association Formed

The Toledo Physicians' and Dentists' Credit Association was recently organized as a clearing house for the collection problems of the physicians, dentists and hospitals of that city. The operation is under the control of the Academy of Medicine.

—●—

County Armagh, Ireland

The school medical officer, Dr. Reid, announced that treatment of defects were far from satisfactory. Common defects placed dental caries at the top of the list with no provision for their treatment; he strongly urged a scheme for dental school services of the 17,069 children on the roll. 12,580 had been examined and 9,317 had defective teeth.—*Jr. Br. Med. Assoc.*

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London Dental Assistants' Association

The third annual business meeting of the London Dental Assistants' Association was held on Jan. 10th, 1934, at Wong's Cafe in the form of a dinner meeting.

Copies of the Secretary's and Treasurer's reports were submitted to the members.

The officers of 1933 remained in office by acclamation:

President, Miss Loretta McCaughey; Vice-President, Miss Marion Buttery; Secretary, Miss

Ruth Collinson; Treasurer, Miss Irene Challoner; Visiting Convener, Miss Mildred Granger; Social Convener, Miss Madeline Moir.

Plans for the coming year were discussed and the enthusiasm of the members was encouraging.—RUTH COLLINSON, *Secretary*.

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Pioneer in Dentistry

Dinner to Dr. Guy—The Edinburgh School

Dr. William Guy, who recently retired from the Principalship of Edinburgh Dental Hospital and School, was recently entertained at dinner by his colleagues in the profession. The gathering which was attended by over sixty of his professional brethren, including a number of lady dentists, was held in the Surgeons' Hall. Mr. A. Ernest Miller presided in the absence of Dr. Goldie, and the company also included Dr. Sinclair, president of the Royal College of Surgeons; Mr. Struthers, secretary of the Royal College of Surgeons; Professor Sydney Smith, Dr. Comrie, Dr. Drinkwater, Dr. Arch. M'Kendrick, Mr. A. C. W. Hutchinson, Dean of Edinburgh Dental Hospital and School; Dr. W. Graham Campbell, Dean of the Dundee Dental Hospital and School; Mr. Alfred G. Mackay, Dr. J. Menzies Campbell and others. A number of apologies were read.

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Kingston Dental Assistants' Association

A special meeting of the Kingston Dental Assistants' Association was held on Monday evening, November 27th, at 8 o'clock in the Chamber of Commerce Rooms.

Dr. S. P. Greaves of the Cooke & Waite Co., Toronto, gave an interesting talk on Local Anaesthesia. Miss Flynn tendered to Dr. Greaves

the thanks and appreciation of the Association.

Mr. Musselman of the L. D. Caulk Co., Toronto, also delighted the Association with a few words. Miss Lily Merritt moved a vote of thanks to Mr. Musselman.

—ELSIE O. JARVIS, *Secretary*.

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Second Recent Effort by R. C. M. P. in Alberta to Establish Identity of Murdered Man, Through Dental Work Done.

ROYAL CANADIAN MOUNTED POLICE
"K" DIVISION

File Number: 33K 636-35

Edmonton, Alberta,

December 6th, 1933.

Sample of circular sent to Alberta dentists, asking for co-operation

Dear Sir:—

Re: Carl Anderson—Buck Creek, Alberta. Suspected murder of—

I beg to advise you that the charred remains which we believe to be those of the above named were found in the ruins of his cabin on the 16th ultimo, and we are having considerable difficulty in proving the identity of same. However, a piece of gold bridgework was found and as Anderson was known to have quite a little gold in his mouth, we are hoping to identify him through this means.

Information has been received from Portland, Oregon, that Dr. Fields of that city performed the following dental work on Carl Anderson in 1924:

Four tooth bridge from lower right bicuspid to lower right second molar. This Carl Anderson also had four tooth bridge upper right cuspid to first molar and a five tooth bridge upper left cuspid to second molar with upper second bicuspid crowned. Also had upper

centrals crowned, also lower left first molar crowned.

It is reported that some of this bridgework came loose either in 1926 or 1927 and that Anderson rafted down the Saskatchewan River from Buck Creek to Edmonton and had the loose bridgework fixed. It is also believed that he may have had some dental work done in Edmonton in April of 1933.

I wonder if you would be so kind as to look up your records with a view to finding out whether you ever worked on a man of this name from Buck Creek, Breton, Winfield, or any of those places adjacent to Anderson's home. Should you discover any data of value I will be glad if you will advise me so that I can have one of the members of my staff get in touch with you immediately.

Yours truly,
W. F. W. HANCOCK,
Acting Superintendent,

—●—

Toronto Association

The regular monthly meeting of the Toronto Dental Assistants' Association was held on Monday, February 5th, in the Royal York Hotel.

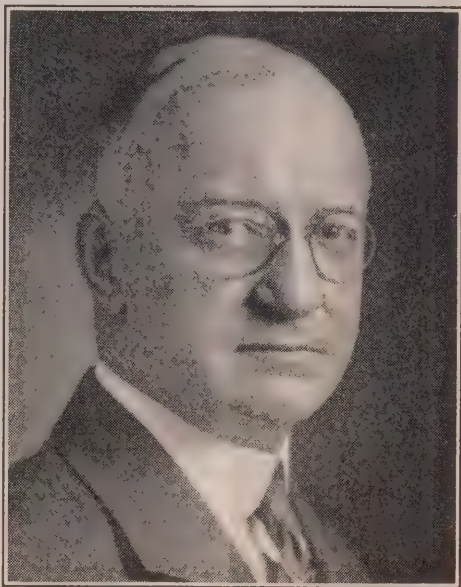
A report was given by Miss H. Campbell, our social convener, of the bridge party, held on January 22nd, proceeds to help our orthodontia fund.

The speaker of the evening, Miss Beamish, assistant superintendent of the Toronto Western Hospital, gave a very educational talk, which was greatly enjoyed by all present.

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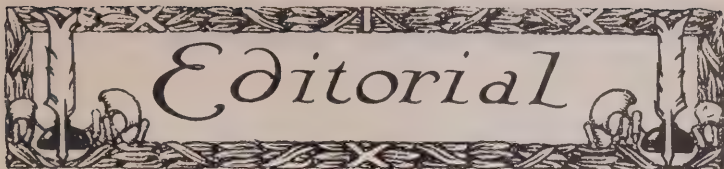
Essex County Association

Organization of an auxiliary to the Essex County Dental Association took place at a delightful luncheon meeting in the Norton Palmer Hotel, arranged by Mrs. L. D. Hogan, Mrs. M. G. Brick and Mrs. T. Ernest Armstrong.



DR. C. A. KENNEDY

*President of the Ontario Dental Association,
who will preside at the forthcoming
meetings in May.*



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

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NO. 2

Oral Prophylaxis

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WHEN oral prophylaxis was first introduced, its advocates believed that dental caries could be prevented by polishing the surfaces of the teeth. Its chief exponent, Dr. D. D. Smith, claimed 952 successes. The real difficulty was to polish defects and proximal surfaces where caries most commonly began. After years of experience, it was noted that tooth-surface polishing alone would not prevent decay, so the ground was shifted. Prophylaxis was then advocated as a toilet operation, for its help in maintaining a clean personal appearance and thus raising the patient's self-respect. Next it was advocated to prevent peridontal disease and the latest reason is to prevent general systemic disease. (Each reason suggested is sufficient for its practice but the difficulty is that the profession, as a whole, does not believe in oral prophylaxis. It is just as Dr. Bricker well said at the recent Ontario Dental Meeting, the dentist pretends or thinks he is practising oral prophylaxis and oral hygiene while he is really only half-heartedly doing either.)

DENTAL NOTES

Dr. G. A. Robertson was appointed school dentist for Leaside.

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Stanley Plain, of Hamilton, was fined \$215 for breach of the Dental Act.

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The office of Dr. Wasson, of North Battleford was destroyed by fire, Jan. 25th.

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Dr. H. D. Morris has been elected to the Municipal Council of Orillia.

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Dr. J. A. Locheed, dentist, and well known in Masonic circles, died in Hamilton, January 29th.

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Academy of Dentistry held annual supper dance at Royal York Hotel, Jan. 25, 1934.

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Dr. Edward T. Guest has been elected chairman of the Board of Education, Toronto.

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The one great outstanding problem in medicine is to supply medical care to all the people at a cost that they can afford to pay.

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Dr. Magee was appointed Associate Editor of the *Dominion Dental Journal* in 1904. It was succeeding Dr. Murray and he has acted in this capacity ever since that date.

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Objections to school nurses making diagnosis of mouth conditions of pupils was voiced in a letter from the Regina Dental Association to the public school board.

Dr. George F. Seguin, of Montreal, was sued by Charles Alexander Campbell for negligence in extraction of child's tooth in allowing it to pass into the lung.

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A reception was held on February 11th at the Dental School of Georgetown University to commemorate the 300th anniversary of the founding of the University.

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Board of Directors of Dental Society at Alberta held semi-annual meeting in Calgary, on Jan. 8th, 1934. Directors present were J. M. Dixon, R. M. Mooney, A. B. Mason, J. B. Long, L. T. Allan, P. H. McNichol.

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Reading Notice

We have received an advance copy of "The Bloodless Phlebotomist", Vol. VIII., No. 1, which is being mailed to every physician in Canada.

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France recently passed a law limiting the practice of medicine and dentistry to those French subjects holding the French State Diploma. This was a restriction aimed at foreign practitioners. This law has been amended to also take in French colonies.

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Dr. Hughes Retires

Dr. R. W. Hughes, the retired vice-president of the Barrie Lions' Club, has left Barrie to take up practice in Westdale, Hamilton, after completing 4½ years' practice in Barrie.

1934 Arris and Gale Lecture

For the first time in history a dentist, C. Bowlder Henry, has been requested to deliver a lecture under the Arris and Gale foundation dating back to 1655, and given under the auspices of the Royal College of Surgeons of England. Three are given each year.



Charged Under Dental Act

A charge of breach of the Dental Act, in Toronto, laid against J. Erskine upon complaint of officials of the Royal College of Dental Surgeons, was ordered adjourned until Feb. 5. Magistrate Patterson told respective counsel the case was not on the day's charge sheet.



Definition of Illness

An illness is defined as any disorder which wholly or partially disables an individual for one or more days or as any experience for which medical science of any kind is received.

Any condition, symptom, or disorder for which drugs costing 50c or more are purchased is considered an illness.



Orthodontic Misinformation

The American Society of Orthodontists adopted a resolution at its last annual meeting deploring misinformation and inaccurate advice in periodicals concerning malocclusion and other deformities of the teeth. The Society authorized the formation of a committee to co-operate with editors in preparation of accurate and useful information for dissemination through the press, radio and lectures.

Dr. R. G. Agnew is Given Degree by University

Dr. R. G. Agnew, distinguished for his work which showed that lack of phosphorus and vitamin D. was largely accountable for tooth decay, was awarded the degree of Master of Science in Dentistry by the University of Toronto.



Annette School Has Three Perfect Rooms

Certificates of Perfect Dental Health Presented to Classes by Academy

The Academy of Dentistry presents a certificate to each classroom in the public schools of Toronto which has 100% perfection in teeth or which attains perfection within a limited time.



Proven?

After a three and one-half year experiment conducted on 450 normal children by Dr. Milton T. Hanke at Mooseheart, Ill., he proved conclusively, to his satisfaction, that the addition of citrus fruit juices to the daily diet was the best corrective and preventive of gingivitis, pyorrhea and dental caries.



Dental Benefit Scotland

There is a strict supervision over the class of dental benefit given persons insured under the Health Act in Britain. The Dental Benefit Council reported on two men, Mr. Allan Montgomery and Mr. Wemyss Stewart, following which the Department of Health for Scotland has declared these men as unsuitable for service.—*Jr. Br. Med. Assoc.*

Parotid Gland:

Acute and Chronic Infections

Sneirerson and Faust treat these troubles by mouth and irrigate the gland through the dilated Stenson's duct. Normal salt sol. is used with, they claim, drainage through a normal passage, requires only ordinary skill, no special instruments required. Little discomfort and reasonable success.—(*Surg. Gynec. & Obst.*)

School Dentistry Has Commenced in Ceylon

The nuns of the Good Shepherd Convent at Kotahena, Ceylon, have opened a dental clinic in their school. It is modern, up-to-date equipment and inaugurates a great need. 76% of the children in Ceylon (600,000) are estimated to need dental treatment. This first clinic of its kind in the island has aroused much interest and the Sisters have been congratulated by the Educational and Health Boards for their work.

Ancient Prosthesis

One of the most astounding pieces of ancient dental appliances has been found during the excavation amongst the Phoenician rocks and tombs in the Orient. The "Ford specimen", as it is named, consists of an ingenious weaving of a single strand 24 g. pure gold wire backwards and forward to secure the lower six anterior in a secure condition. It is passed from canine to canine, in through the interproximal spaces in a most thorough manner, backward and forward, until the teeth as shown in the preserved skull are securely retained. This is the second specimen of Phoenician dental art to be secured and adds to the knowledge of the bold travellers and traders.

Dental Work

Editor, Vancouver Sun: Dear Sir,—I wish to appeal through your paper to the dentists of Vancouver and New Westminster.

I am on relief and have six teeth with small cavities. I have appealed to the city and canteen funds, but with no success.

I have over \$200 worth of work on my teeth, and have always taken pride in keeping them in good condition.

I am willing to do any amount of work to have this work done. It is unfortunate that in the four years I have been here, I have had no dental trouble, and have no private dentist.

R. G. SCOBIE.

1702 London St.,

New Westminster, B.C.

Synthetic Vitamins vs. Natural Foods

Dr. H. A. Harris, Prof. Clinical Anatomy at University College, claims that there is no substitute for a generous all-round diet of fresh food. This is as fundamental as the second law of thermodynamics. Milk, eggs, butter, cheese and proteins are still required for the growth and health of the child. The extent of malnutrition cannot be gauged by the extent of rickets. Vitamin D probably does all that is required as regards calcification of cartilage and formation of bone, but other vitamins are necessary for growth, development and resistance to infection. Prof. Harris thinks that before the community is asked to exchange natural cod liver oil with its richness in Vitamins A and D for synthetic preparations, much more reliable information must be provided.—*J. A. M. A.*

Association or Convention?

We notice the annual meeting of the dentists of Ontario was called a convention this year. The Ontario Dental Association held a convention. The dictionary conveys the idea that a convention is a meeting of strangers who have something in common, while an association is a gathering of those who may have much in common. The Ontario Dental Association is an organized body with permanent membership with meetings or associations, not a convention of strangers who may happen to come together. Let us call our official annual gathering an association.



Aberdeen Dentistry

School examinations revealed 11.8 per cent. of children with sound teeth, over 76 per cent. had one or four decayed teeth and nearly 11 per cent. had five or more decayed teeth. Oral sepsis present in about 1 per cent. Dr. Rae suggests that a visit for inspection be made at least once a year. He severely criticizes delay on the part of the parents in following up the notices issued. He maintains that extractions should be few in relation to fillings and toothache unknown. Much of the former ignorance of parents had been swept away but a lot of work had still to be done. Education by means of models, exhibits, demonstrations and lectures had been given in school through the agency of the Dental Board.—*Jr. Br. Med. Assoc.*



Committee on Nutrition Br. Med. Ass'n

Socialistic propaganda shouting loudly on malnutrition among the poor with a desire to deal out more money from public funds, led the Association to go into the question. The committee holds that 3,000 calories in daily food will do the aver-

age unemployed man, while the one doing moderate labor will require from 3,000 to 3,700; an adult woman needs 2,840; children 12-14, 3,060, down to children from 1-2 years, 1,020 calories as a requirement. It is laid down that about 15% of the daily calories should come from protein, 50% of this of animal and 50% of vegetable origin. The calories can be brought up to 3,400 by using the cheapest source possible—carbohydrates. If doubt exists as to vitamins, a few drachms of cod liver oil will ensure requisite A. and D. content. The committee gives a number of diets for man, wife and three children to work out at a cost of about \$5.00 a week.—*J. A. M. A.*



Bacteriology in Rheumatic Polyarthritis

A few months ago the report of the Br. Med. Assoc. regarded with a great deal of conservatism the suggestion that American investigators, bacteriologists, had cultured streptococci from the blood stream of rheumatic patients. They had been unable to duplicate the work. Harthelen and other German observers make the same reports; the former had taken cultures from thirty-one patients suffering from polyarthritis, with negative results in every case. European and American bacteriologists cannot agree on these points.—*Br. Med. Jour.*



Insurance Scheme

The British Dental Association has an insurance scheme by which dentists are provided sick benefit, payment at death, division of annual surplus, investment of members' funds, members' house purchase scheme, at cost. While methods of insurance are managed differently in Canada, still we think

some such scheme as that outlined might be conducted by the members of the Canadian Dental Association.

Since writing above, a committee composed of Drs. Paul, Kennedy and Conboy have completed arrangements whereby dentists can take out insurance on their motor cars, houses and life, under the management of the Dental Profession.



Sun Tan Harmful

That artificial forms of vitamin D may be a factor in the cause of certain forms of cancer in the human body, was the warning recently given by Dr. Arthur Hendrick, distinguished Toronto surgeon and collaborator with Prof. E. F. Burton, head of the physics department of the University of Toronto, in the discovery of colloidal arsenic preparation for the treatment of cancer.

Dr. Hendrick deprecated the vitamin D movement in that artificial vitamin D might work harm where the natural vitamin would not.

Sunlight beating against a woman's skin, saturated with synthetic face creams and oils, sets up a chemical irritation suspected as a cause of cancer, according to Dr. Ewing, internationally known cancer authority. With this theory, Dr. Hendrick agrees.



Focal Infection in Ophthalmology

It is always worth while to compare the conservatism of the British medical practitioner with the radicalism of the North American. O. R. Lourie in the Arch. of Ophthalmol., claims that before eliminating so-called foci of infection there should be either experimental proof of the theory of focal infection or experimental observation of the relationship between such foci and

the disease in question. It is suggested that at present there is so much vague theory and speculation that the practitioner would do well to safeguard his patients. Even statistics in favor of the theory show the elimination to be futile in the majority of cases. Only 12% of the patients at a dental clinic had rheumatism in spite of the idea that foci were such a fruitful source. Promiscuous operations of this sort for ocular diseases are unwarranted in the opinion of the writer.—*Br. Med. Jour.*



Principles of Partial Denture

Dr. C. H. Schuyler, professor of prosthetic dentistry in New York university, conducted a clinic before the Dental Academy of Hamilton in the Royal Connaught hotel and lectured before the same body.

The subject of both meetings was the fundamental principles of partial denture construction. The speaker said while the average individual easily comprehended what constituted the difference between a high-priced and a low-priced motor car, when it came to teeth and restorative dentistry he seemed unwilling to recognize what considerable price differences there might be dependent on the nature of the craftsmanship expended upon the work.

STRESSES WORKMANSHIP

The design and construction of restorative appliances was discussed, the speaker emphasizing that it was for workmanship and knowledge the patient paid rather than material. He stressed the importance of fitting a denture immediately after extraction of teeth. This acted as a splint, holding the tissues in place and retaining facial expression and tissue tone which, once lost, could not be regained. A denture so made was also more

comfortable than one made after delay.

At the clinic in the afternoon Dr. Schuyler gave demonstrations of methods of taking impressions to get accurate reproductions of conditions existing in the mouth.

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Revolution: Guided or Haphazard

"The canine which plunges into the garbage can, knowing exactly which bone he intends to retrieve, is pretty likely to get it; while the poor mongrel which cannot distinguish a bone from the business end of a snake will merely get a mouthful of trouble. State medicine is one of the largest and most pernicious. It has been cultivated, fattened and decorated and even made to look like a succulent bone by certain groups of laymen whose motives are obvious or ulterior. The history of countries that have tried this ophidian in sheep's clothing is a sad story of professional practice and public welfare controlled by and subordinated to political expediency and private pork. If the practice of medicine is to be a fit occupation for our sons, the physicians of this day must cease their haphazard bickering, seize the tiller and steer the ship away from the rocks of selfishly manipulated chaos into the safe haven of competence and content."—(*Medical Pocket Quarterly*.)

Dentistry is as deeply involved as medicine.—*Ab. (L. McL.)—Medical Quarterly*.

—●—

Diagnosis as is and How Familiar!

Staff reports of Mayo Clinic give a little time to commenting on two cases of gout from their institution. Before arriving at the Mayo Foundation, one case had been diagnosed traumatic arthritis, in-

fectious arthritis and acute rheumatic fever. Treatment had included administration of salicylates, removal of tonsils, *extraction of teeth*, antrums both operated, prostatic massage, application of casts, injection of vaccines, meat-free diet. If this chap hadn't got to a proper institution it might be interesting to speculate on what lay just around the corner for him.

Dr. Hench suggests that gout be suspected in (1) acute, severe arthritis of short duration often within a few hours of minor trauma; (2) acute recurring arthritis with complete remissions, or of chronic arthritis with such a history preceding the chronic phase; (3) chronic arthritis with nephritis with or without renal colic or stones; (4) chronic arthritis with periarticular ulceration or assymetric swellings. Until a dentist is sure, it might be well to leave a poor devil's masticatory apparatus alone, otherwise explanations might be in order and hard to make.—*L. Mc.*

—●—

Gingivae During Pregnancy

Stout, Ziskin and Blackberg

Four forms:

(a) Bleeding gums from slight trauma.

(b) "Raspberry red gums" only involves free gum margin; more common in anteriors; bleeds easily on slight probing.

(c) Generalized hypertrophy, swollen gums, redness, hypertrophied papillae may cover large portion of crown, commonly confined to one part of mouth; "hypertrophic gingivitis of pregnancy".

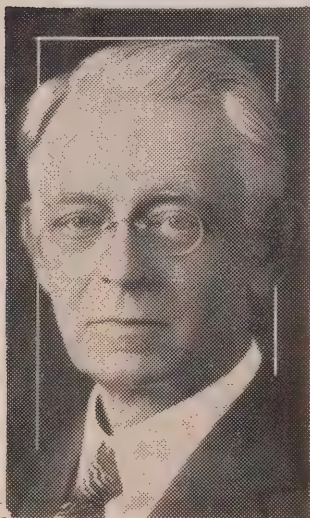
(d) "Pregnancy tumor" may look like overgrown papilla, usually single. May increase to resemble epulis, cyanotic with red border may interfere with mastication diminishes or departs after parturition.

If not properly treated at Forest 1934.

at subsequent periods and may manifest itself coincident with Vincent's, pyorrhea, bacteria and fungi. The condition seems to occur in boys and girls at puberty and at menstrual periods in women. The possibility of a hormone acting as a causative agent led to the injection of pregnancy urine extract into monkeys with resultant similar changes in gingival epithelium. Since hyperplasia of the epithelium is the most marked change in the gums in pregnancy, and as it increases with the advance in pregnancy, and as it is commonly present in certain organs of reproduction during this state, it seems that pregnancy plays an etiological role in the production of hyperplasia of the gum epithelium.—*Surg. Gyn. and Obstr.* L. McL.



Life Membership



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ing sc. **WALTER EARLE WILLMOTT**
should be member of the Toronto Dental
of the tr. and present secretary of the
experimen the Royal College of Dental
has received a life member-
relationship bce Academy of Dentistry.

Disciplinary Action

Br. Gen. Med. Council

It is seldom that the charge of unprofessional conduct, embraces both medicine and dentistry together, or that a charge is referred by a dentist against a practitioner of medicine to the senior governing body of the medical profession, so with this unique feature in mind we can read the case of Mr. Grayson, dentist, vs. Dr. Philip Henry, M.D.

Mr. Philip Johnson, dentist, Brentwood, had as his assistant for a time Dr. Henry, who made several attempts to purchase the practice without being able to secure the funds. It was sold to Mr. Grayson, a young man just starting his dental career. Mr. Grayson complained to the Medical Council that almost at once, in a neighboring flat a sign, "Dr. Henry, dental surgeon, has removed from 22 High St." (Mr. Johnson's former address), a window has been decorated with Dr. Henry's name and degrees, and two signs, "dental surgeon" and "entrance to surgery" had been placed on the same premises. Dr. Henry had sent cards to former patients of Mr. Johnson's and had sent letters to some on notepaper with Mr. Johnson's name and address.

At the hearing it was stated that it had been understood that Dr. Henry was not to locate in that neighborhood, and had sent out the notices without Mr. Johnson's knowledge or sanction. Dr. Henry stood behind the fact that his name was on the medical and not the dental register, which was sufficient for him.

The Br. Gen. Med. Council, however, did not concur in his ideas but ordered his name struck from the medical register.—*L. McL.*

The Child and the Dentist

Success or Failure—Which?

By Dr. J. Menzies Campbell

Nearly thirty years ago, Dr. Charles W. Elliott, addressing a graduating class of dentists at Harvard University, said:

"If your professional object, henceforth, be limited to fulfil your obligations in connection with the prevention of mouth diseases, you will prove yourselves unworthy of your degrees."

Early and thorough attention to a child's primary teeth is one, if not the foremost, of these preventive measures. It may seem a small affair to fill a small cavity in a child's tooth, but many adults attribute much pain and illness, as well as a set of artificial dentures, to a dentist who once said to a parent: "No need to bother about first teeth, they will fall out anyway."

It is a blot on our professional progress that, even today, such a state of affairs should prevail, although not by any means to the same extent as when Dr. Elliott uttered the above warning. The vast majority of dentists, nowadays, pay particular attention to the primary teeth but, unfortunately, there are, especially amongst the younger men, those who are disinclined to undertake conservative treatment for children. Yet, if properly managed, there is no more interesting, more refreshing, more fruitful or less nerve-racking aspect of our work. This conviction, coupled with a desire to help those more recently qualified practitioners who regard child dentistry as unprofitable, must be my excuse for contributing this present article. Further, I should like to remind such dentists that, metaphorically speaking, the child of today is the parent of tomorrow and that, although they may now think that

adults constitute a more fruitful field, a time will come when the ranks of their patients will be severely depleted, unless their practice now embraces a younger generation. In this connection, the dentist should never forget what "Cynicus" wrote:—

"We think we'll leap the five-barred gate,

But sometimes we miscalculate."

In considering the preservation of the primary teeth, our dealings should not be confined solely to the child. Before the latter is born the dentist ought to have talks with the parents and point out clearly the milestones on the road to better teeth.

—•—

The Kingston Association

The Kingston Dental Assistants' Association held their regular monthly meeting on Monday evening, Jan. 22nd, in the Chamber of Commerce Rooms, with the President, Miss Daisy Gibbs, in the chair.

Obituary

Dr. Frederick Harling Dies

The funeral was held in Victoria, B.C., of Dr. Frederick Harling, who lost his life while attempting to rescue Mrs. C. Bates and L. A. Hinder, her companion, from the water after their boat had overturned off Chinese Point.

—•—

Dr. Wm. A. Bell

Dr. Wm. A. Bell died at Forest Hill on January 19th, 1934.

OBITUARY

Dr. W. F. Fear

After graduating in dentistry from the University of Toronto in 1882 he came to Mitchell to establish a practice. Later he moved to Seaforth and forty-five years ago he left the town to take up similar work in Aylmer, retiring from active practice only one year ago, when his health became impaired. His widow, formerly Margaret Smith of Seaforth, and son, Douglas, Royal Oak, Mich., and two brothers, I. V. and George Fear of Salamis, Cal., survive. A son and daughter predeceased him.

—●—

Dr. W. P. Bonnell

Walter Pervical Bonnell, D.D.S., aged 72, one of New Brunswick's oldest and most highly respected professional men, passed away at his home, 40 Queen Square, following a gradual decline over a year's duration. He was confined to his room for seven months.

Dr. Bonnell leaves besides his widow, formerly Lily M. Tufts, daughter of the late Alderman Samuel and Isabella Tufts, one son, Dr. Percival L. Bonnell, former junior partner in the firm Drs. Bonnell Den-Infirmery, Waterloo St.; and two grandchildren, Evelin and Barbara, daughters of Dr. and Mrs. Pervical L. Bonnell.

—●—

Dr. George William Oliver

Dr. George William Oliver Was Former President of Dental College

Following a short illness, Dr. George William Oliver, dentist, of 525 Clarke avenue, Westmount, died at his residence. Dr. Oliver, who had his office in the Bank of Toronto building, was 60 years of age.

The late Dr. Oliver was born in the village of Dunham, on June 22, 1873. He was educated at Bishop's College and McGill University.

He was a past president of the Montreal Dental College, and 36 years ago joined it as a charter member. He was appointed honorary member of the Montreal Dental College after having been a member for 35 years.

—●—

Dr. G. L. Ball

Dr. G. L. Ball Dies in His 77th Year

A member of the dental profession, who had practised in Toronto for more than 40 years, Dr. George L. Ball, aged 76, passed away at his home, 22 Glengrove avenue.

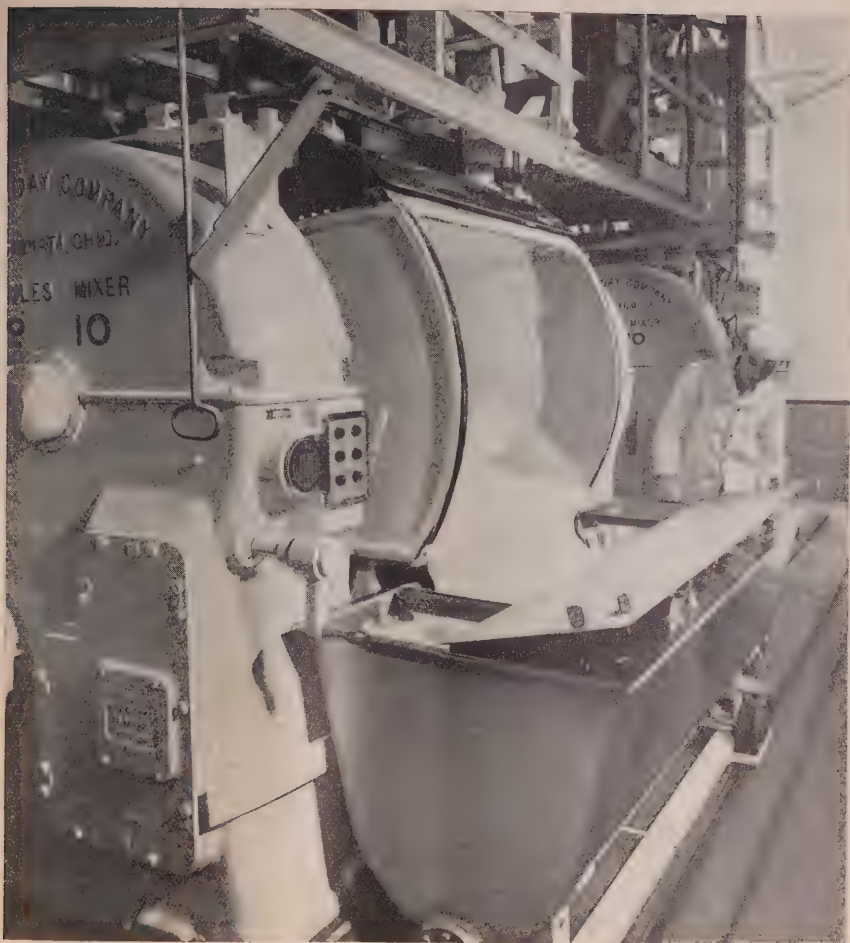
Born at Uxbridge in 1858, he received his early education at Brussels. He graduated from the old Toronto School of Dentistry with honors in 1888.

Dr. Ball commenced his practice in Brussels and Seaforth, coming to Toronto in 1889. For many years he was a member of Sherbourne Methodist church, but in recent years attended Eglinton United church. He was a member of St. Andrew's Lodge, A.F. and A.M.

—●—

Dr. C. R. Hambly

Dr. C. R. Hambly, editor of *American Dentist*, died at his home in Los Angeles and was buried in Bolton, where he was born in 1869. He was associated with the Parker Dental Association for 20 years and retired in 1920 after writing "The Practice Builder". In 1930 he started writing again and was author of "Hold Your Money", "The Money Master's Monitor" and "The Wonder of Modern Dentistry".



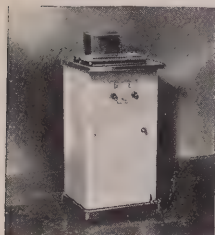
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SPOTLESS—sanitary—as scrupulously clean as the equipment in a modern laboratory or your own spotless kitchen. That describes the giant mixers and conveyors in the modern factories where Pepsodent—"the special film-removing tooth paste" is made.

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« « With The Publisher » »



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Ritter Model "A" Sterilizer with automatic thermostat and safety switch. Water reservoir eliminates necessity for frequent manual re-filling; water conditioner pre-heats and pre-sterilizes; automatic removal of excess lime; automatic maintenance of water level.



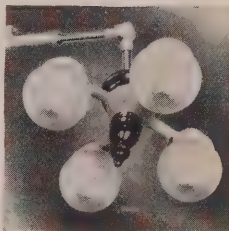
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Ritter Model "E". Four cluster operating light which gives approximation of daylight. Gives glareless illumination.

NEW PYROZIDE PACKAGE

Specific directions given to patients concerning the home care of the teeth as an important factor in maintaining the healthy condition established by the dentist, produce a confidence on the part of the patient that results in better co-operation and in a correspondingly greater appreciation of the professional service rendered.

The distributors of Pyroside Tooth Powder, which is now still further refined for general use as a dentifrice, are introducing a newly designed package to the Canadian market. This product, known to the profession for its merit as a gum stimulating agent and safe cleanser of the teeth, is advertised to the profession rather than to the public.

A NEW PRODUCT

"Paribar" is the name given a new product placed on the Canadian market by the Amalgamated Dental Co. Ltd. of London, England. The claim for this new compound is that it gives a perfect impression, which develops resiliency in the cooling stage, thus minimizing risk of distortion or drag in removing the impression.

RICHARD M. ROWAT APPOINTED

The appointment of Richard M. Rowat, B.Sc., F.C.I.C., to the staff of the Windsor Salt Section at Sandwich, Ontario, has been announced by Canadian Industries Limited. Mr. Rowat, who will inaugurate a new technical service for the company, is the author of the report on the use of salt for oral hygiene.

Do you smile Doctor?

WHEN you read the innumerable boasts and promises of dental cures made by many dental preparations, through the medium of advertising. You know, better than anyone else, that it is impossible for a toothpaste to do more than clean teeth.

But stop for a moment. Consider that thousands of people actually believe these wild boasts. And believing them they confidently use these dental preparations, instead of obtaining necessary treatment from a capable dentist. Think of the harm this does to your work, doctor, which is to promote dental health.

Colgate's recognizes its real duty to the dental profession and to the public in general. That is why Colgate's gospel has always been, and will continue to be, "A toothpaste can only clean teeth". Colgate's never has and never will claim to take the place of a skilled practitioner and produce dental cures.

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COLGATE'S

RIBBON DENTAL CREAM

Halitosis

Dr. G. L. Grapp believes that halitosis is largely due to a condition of the mouth, particularly to a coated tongue. Further investigation showed that fetid breath was caused, in 90% of the cases, by the tongue. Bacteria are present in the mouth shortly after birth, and increase rapidly in numbers. They cling more easily to the rougher part of the tongue, which is at the back.

Epithelial cells are still being produced by man as rapidly as they are required by the lower animals in whom these cells are being worn away by their vigorous masticating machine. But if this active use is delayed, organic matter accumulates and dies, and putrefaction sets in.

This coating on the tongue is composed of a mass of dead disintegrating cells, decaying food particles, and innumerable bacteria. Since the coating is sealed into the deep crevices of the tongue, a definite treatment must be carried out before antiseptics can be used.

Dr. Grapp advises the application of a modification of Dakin's Chlorine Solution in a jelly base, flavored with the essential oils. The jelly is applied with a soft rubber brush, which forces it into the crevices. The other side of the brush is serrated, and used as a scraper for the dislodged debris. Laboratory tests show that the use of this brush greatly reduces the number of bacteria in the mouth, and improves the condition of the tongue, thus reducing halitosis.

FOR SALE AND WANTED

BUSINESS OPPORTUNITY--

For men who know how to sell. We want to develop a staff of live, energetic men with selling experience to represent three leading Canadian publications. It is spare-time work we offer. No interference with your regular occupation. No investment required—we supply all materials required. Real good commission and bonus arrangement for producers. Write Box 21, care of Dominion Dental Journal, 73 Richmond W., Toronto.

BURGLAR ALARMS—Gentlemen protect your stock and premises. Leave your office tamper proof by installing this wonder alarm. Have your lights come on or sign flash that cannot be put out while alarm is ringing. W. Rhea, 58 Eastmount Avenue, Toronto, Ontario. Gerrard 6356 W.

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FOR SALE—Dental Office Equipment in first-class condition with good-will of practice, in Ottawa, Ont. Owner wishes to retire. For particulars address Box 113, Dominion Dental Journal, 73 Richmond St. W., Toronto.

ORIGINAL CONTRIBUTIONS

Prosthetics

By Dr. Frank L. Cole,
Toronto, Ontario

*Paper Given Before the Eastern
Ontario Dental Society,
Sept. 18th, 1933.*

I JUST recently listened to a prominent prosthesisist giving a paper who began by saying that papers on prosthetics were too technical and long, and he proceeded to read one which lasted about one hour which was so technical that one would have to read it several times to understand some points of the technique he was describing.

Now I have nothing like that, and I have tried to make this short paper general, and deal with a few fundamentals.

Prosthetic dentistry has advanced wonderfully in the last few years, especially the building of Full Dentures.

New shades of artificial teeth have been developed, and it is wonderful the results obtained from the esthetic standpoint.

Many articulators have come on the market and they give the dentist help in bite balance of teeth.

New forms of posterior teeth help up avoid cusp interference.

But the use of all does not make a perfect set of artificial teeth.

The good impression at one time was the cure-all for all dentures, and at another time, teeth set on this articulator would be sure to work, and then certain forms of

posteriors would grind all foods perfectly. But we have found out that by following out fundamental principles of denture construction we will get very good results.

It has been said, and very true, that on the first thorough examination of the mouth presented decides the final success or failure of the finished denture.

FULL DENTURE PROSTHESIS

THREE essentials in the building of a set of dentures are:—

1. Good Impressions.

We must make that surface of the dentures which are in contact with the mucous membrane of the upper and lower jaws conform to them in what is called the Fit or (Misfit). Thus we must have as perfect an impression of the tissues that support the denture as possible.

2. The Articulation of the Teeth During Mastication.

The set up or position of the teeth on the base should be such that during the movement of mastication the pressure exerted will have a tendency to seat the dentures in their positions on the upper and lower jaws.

3. The Finish of the Dentures.

The finish and contour of the buccal, labial and lingual surfaces of the teeth and of the denture material in contact with the surface of the cheeks and tongue, must not interfere with the action of the muscles of the mouth.

We make dentures with one or more of these essentials, but do we take into consideration these three principles as we make each denture.

WHAT IS ESSENTIAL IN A GOOD IMPRESSION OF THE UPPER?

1. It must cover the largest area possible and have close contact with the mucous membrane of the upper jaw by adhesion and atmospheric pressure. It should not leak air around the peripheral margins and no interference with the muscles of the lips, cheeks and tongue; and the pressure should be over the ridge or stress-bearing area.

WHAT IS ESSENTIAL IN A GOOD IMPRESSION OF THE LOWER?

THE lower impression must include the largest possible area without interference with the muscle attachments of the tongue or cheeks or lips, with the pressure on the sides of the ridge and not on the top. They should be muscle trimmed impressions; many techniques for good impressions have been given us and any one is a paper in itself.

2. The Set up of the Teeth.

We all understand the theory of balanced occlusion, the curve of spee, and compensating curve. And we know that cusp interference dislodges dentures as well as being the cause of many sore spots.

We should have as many teeth as

possible occluding in centric occlusion or in other positions during mastication in order to cut up the food and mix the carbohydrates with the saliva.

One great influence in the seating of dentures is the action of the muscles in the opening or closing of the bite. We notice that when bites are closed the lower jaw has a tendency to slide forward, the other pressures on the both occlusal surfaces of the teeth are forward on the upper and backward on the lower, which dislodges both dentures.

Thus it is very important that records should be kept of the opening of jaws before the teeth are extracted and at regular intervals, and that distance should be checked up with these records.

In setting teeth up for function it is necessary to get two relations or jaw openings. The first, the vertical or rest relation, and second, the centric bite or retrusive relation of the mandible. The rest position of the mandible is that when it is in repose, the teeth separated and lower maxilla usually slightly advanced. This can be obtained by having the patient relax, by saying "ah" several times, and then saying the letter "m" three times; with the bite block in position they should occlude. This position is associated with the function of speech.

The centric bite is, as the words imply, associated with the function of mastication. This can be obtained by the use of some form of gothic arch recording device, or by a method used by Dr. Gillis, that of having the patient relax. After having obtained the correct rest relation, remove from the front of surface of lower bite rim about 3/16 of an inch between the position of the cuspids, warm the posterior part of the bite rims and have the patient repeat "m" several times and then suck and swal-

low three times. Mark the centre line in both blocks and remove, cut notches in the upper block, heat posterior part and repeat; note if the centre line in upper and lower blocks are in line, repeat until the anterior parts of blocks are in contact. This will usually give the correct centric bite.

The mandible and its attached muscles make a very fine motor for the mechanism of chewing food. The teeth do the work and we should use the best substitute for that chewing, when the natural ones are lost. When setting up teeth we should use some instrument that will substitute the action of this motor.

Almost any kind of articulator can be used in making artificial teeth, and patients can be found who can use teeth made on them, but the articulator does not always do what it is supposed to do. The Hanau, Gysi, Adaptable, and Stansbery are considered the best to meet all requirements, and will naturally assist in balancing the occlusion of the artificial substitutes; which in reality is the removal of cusp interference. This has been greatly aided by the use of non-anatomical posteriors, Hall's teeth, Seer's posteriors, and Dr. French's new posteriors, which I am sure will assist materially in harmonizing the function of tooth surfaces; the neglect to do causes many failures and resulting soreness and ridge destruction.

In setting up teeth they should be so arranged as to direct the masticating pressure so that it will seat both dentures, but we have the tongue to contend with, and the teeth should not be set in such a position that the movement of the muscles in the lips, cheeks and tongue will exert a dislodging pressure on the labial, buccal and lingual surfaces of the teeth. Perhaps a thorough study of the action

of the muscles would help us to place our teeth.

Lower teeth should be set well on the ridge. The lower molars and bicuspid should be set so that the centre of the buccal cusps should be directly over the centre or slightly lingual to the centre of the lower ridge, and the neck of the anteriors well over the ridge. The incisal edge may extend labially but very slightly, for esthetic reasons. The cuspid and first bicuspid incline slightly lingually, so that fibers of the triangularis will not have a tendency to raise the lower, if they were inclined buccally or the bell of the buccal cusps interfere with the muscles. If the lingual cusps are well inside the ridge they will sometimes interfere with the tongue, and if so, grind them off or use Seer's or French's posteriors. Do not allow the lower anteriors to touch the uppers in any protrusive or lateral position. In occluding the upper teeth the bicuspid should not be inclined lingually to articulate fully with the lowers, but all the upper teeth set a little outside the ridge, for the following reasons: in the labial for esthetics, or phonetic reasons. In the bicuspid region a little extra width enables the V-shaped muscles forming the modioli to grasp and support the denture. The lower cuspid and first bicuspid may only articulate with lingual cusps of the uppers.

In the molar region the effect of leverage is counterbalanced by the pressure of the tongue on the palate, and it is sometimes necessary to set the upper molars in a fairly wide arch to occlude with the lowers which are on the ridge. Sometimes it is necessary to use a very narrow tooth for the second molar, and often in the lower, where the tongue is large, the second molar may be left off and three bicuspid used instead of two bicuspid and

two molars. Most of our troubles in full dentures is the retention of lowers, but if this method of set-up is followed good results should be obtained.

THE FINISH OF THE BASES

THE bases, both upper and lower, should be so finished as not to interfere with the action of the muscles of the cheeks or tongue, and so that these muscles will have a tendency to seat the dentures rather than dislodge them.

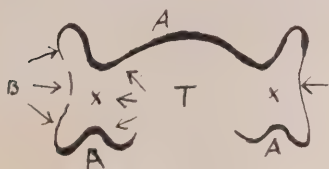


Figure 1

In the illustration, Figure 1, we have, (a) the ridges, (x) the space for the teeth, (b) Buccinator Muscles, and (t) the tongue.

Thus if we can shape the base so that the pressure of the Buccinator muscles M, M, and O, on the teeth and on the bases will counteract the action of the tongue, the dentures will remain seated.

The finished polished bases of the denture can be so modelled that its surfaces which come in contact with the muscles at such an angle that during the movement of mastication and speech it will have a tendency to push the denture into its place. As in figure 2.

If we were to replace the space with teeth and base to conform to the shape in figure 2, we can readily see that the pressure of the muscles and tongue on this triangular shape of denture would help very materially to stabilize



Figure 2

Transverse section in molar region. The sides of dentures triangular in shape. Pressure of tongue and Buccinator seats the dentures.

both upper and lower, even if a bolus of food would be between the biting surfaces, as in figure 3.



Figure 3

Pressure of tongue and Buccinator holds the bolus of food and seats dentures at the same time.

The lingual surface of the lower denture should be concave or so shaped that the tongue will rest on it and not as in figure 4.



Figure 4

Cross section of A—Properly contoured Lower. B — Planes of the Lower Denture at the wrong angle as pressure of Tongue and Buccinator would dislodge them.

Sometimes the base can be extended under the tongue. This can be done by adding a piece of counter wax on the lingual margin of the finished compound impression

and having the patient suck and swallow with the teeth closed and holding the lower denture down with the fingers, and moistening the upper lip with the tongue while the wax is quite soft, then trim off the excess which has been turned up, repeating until the wax is no longer pushed up by the tongue movements. This extension reproduced in the stone cast forms the lingual peripheral margin of the finished denture. This lingual extension may be put on arbitrarily as described by Mr. Fish, who also describes a method of forming the wax on the buccal and lingual surfaces of the base of the lower denture, which in some cases assists greatly in their retention.

This can be done on the finished dentures by a method that I have developed, proceeding as follows: Melt a roll of counter wax about the size of a pencil on the buccal surfaces of the denture base extending from the first bicuspid to the posterior end of the denture.

Heat this in water 120 degrees F., and place in the patient's mouth and have him go through the motions of sucking and swallowing several times. This will contour the buccal surfaces, conforming to the action of the Buccinator muscles, and then the operator with the forefinger and thumb pressing the corners of the mouth, push them upward and backward, which assists the action of the triangularis. This contours the surface where fibres of the triangularis muscles converge to meet the Orbicularis oris, Buccinator, Caninus, and Zygomaticus at the corner of the mouth from which they radiate like the spokes of a wheel, the hub being known as the Modiolus. Figure 5.

Then have the patient suck the cheeks between the teeth, or if unable to do so, the operator presses the cheeks between the teeth; this

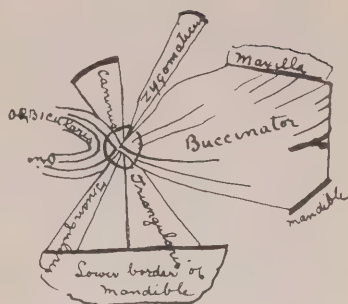


Figure 5

Muscles inserted into the modiolus.

will correspond to the action of the Buccinator in holding a bolus of food between the teeth and will contour the buccal surfaces. These actions force the wax up above the gingival of the teeth, the excess can be trimmed off and this repeated several times until no change takes place in the wax. This can be vulcanized on.

In many cases the fibre triangularis are very strong and when the mouth is opened they have a tendency to push the lower dentures back, but if the lower anterior teeth are set well on the ridge and the base shaped so that the lips will rest on it and not force it up, this difficulty can be overcome, as in figure 6.



Figure 6

Arrow A indicates hollow to accommodate the Orbicularis oris. Lower anterior teeth set well back on ridge or in very flat lowers inside the ridge.

Posterior fibres of the triangularis often form a tendon which is

sometimes attached very close to the top of the lower ridge in the region of the first bicuspid, the base in this region should be relieved to allow the free movement of these fibres in this region.

In closing, I wish to say that the contoured and highly polished bases of dentures is no new thing. Mr. Fish of London, England, in his clinic presented at the British-Canadian Convention in Toronto, gave me the idea of having the patient model the bases in preference to doing it arbitrarily.



THE CARE OF DENTURES

DENTURES may fit perfectly when put in the mouth and may be satisfactory to the patient, but they should be checked for occlusion and settlement regularly by the dentist, just the same as the patients have their teeth examined twice a year. Cancer and other lesions are often caused by ill-fitting dentures, and regular trips to the dentist by the denture patient should assist materially the early diagnosis of these growths in the oral cavity.

One thing we must emphasize to the patient is the keeping of the denture clean. It should be impressed upon them when the denture is first inserted, the necessity of cleaning the denture at least twice a day with a good stiff den-

ture brush or small hand brush and cold or lukewarm water, using two parts powdered fine pumice, one part whiting and two parts powdered soap as an abrasive. There are some denture pastes sold that will also clean dentures, and some liquid solutions of Chlorine or Javel Water which the denture may be left in overnight, but these do not remove the calculus deposits.

Rubber sore mouth is almost a thing of the past, as the modern rubbers do not contain injurious coloring matter. The mucous membrane of the mouth after wearing dentures often has a red appearance and becomes sore, which may be due to too heavy pressure (too wide teeth) or an unclean denture. Perhaps to the naked eye it may look clean, but it is not. To remedy this condition the denture should be left in 50% Hydrochloric Acid for fifteen minutes, then cleaned with soda and salt. The tissue should be painted with Acriflavine, and the denture replaced.

I advise all patients with vulcanite or gold dentures to immerse them in 50% Hydrochloric Acid at least every month for not more than thirty minutes. Then clean with soda and salt. I find the mouth in a much healthier looking condition than those who do not use the Hydrochloric solution. This also loosens the calculus deposits we see so often on dentures. Keep the dentures sweet and clean and they will give better service.

"Of All Sad Words ---"

By

Dr. Howard M. Reid

GROUPS of embryo dentists stood about the infirmary of the famous old dental college of Philadelphia. Little qualms of nervousness and pardonable pride thrilled them, as they caught glimpses of themselves in mirrors here and there. But why should they not be wrought up, nervous, a little proud? At last they had arrived at the time when they could actually wear that insignia of the profession—a white coat; when they were really to begin professional service for real people; when the staff and instructors addressed them as "doctor".

In a few moments from among the motley crowd that daily assembled here for "free" dental service, they would each be assigned their first patient upon which to begin practising the theories absorbed through wearisome lectures in the previous terms.

"Doctor Hasting". It was the voice of the demonstrator. At last he had got down to the H's. He was calling Matt Hasting, son of the western plains, right guard of the gridiron squad; all-round good fellow.

That first assignment to "Doctor" Hasting was different from the ordinary. A little, old, silent lady dressed in dull black. "Poor she must be, else why come here," reasoned Matt. Rebecca Shalberg was the name on the card and the address indicated a district where once—perhaps fifty years before—had dwelt the wealthy class of the city. But that class had long since moved to a more exclusive area.

Matt did his first work, well—got A-1 on the card, and the old lady, in her silent way, was apparently taken with his manner.

"You should stay in the city, my boy," she said, when leaving. I would like if you would take my front rooms and open up a practice when you are through. I want a bright young man like you to help me look after some little business affairs. I have nobody depending on me, am getting old, and I like you."

"Gosh, Matt, it might be all right. She might remember you in her will," laughed Jimmy Britt, his room mate when Matt told him.

"Aw, baloney, nobody has anything who comes to a free infirmary to have us fellows experiment on them, and besides, Jimmy, I'm going back west; it's booming and—"

Matt was counting the days to graduation, when he could marry June Harrison back home—his school day chum and present inspiration.

"Bring June here, Matt, she'd like it," countered Jimmy, reading Matt's thoughts.

"Well, we've another year, we'll see," so Matt dismissed the subject for that year.

The last year. Graduation now close. It was the fourth time this old maid, Rebecca Shalberg, had called to see Matt. The boys were joshing him about his ancient sweetheart.

"Come up and see the house, my boy. We could get men to fix it the way you would want it, and I will give it to you free if you will come in—as a young companion and helper in attending to my affairs—I may not live long, and might make it well worth your while."

Matt and Jimmy went to see the place that evening—just to please her, as Matt said.

It was a bedraggled, smoke-be-grimed, old solid square brick house, looking as if it had once been a pretentious place. Now it was hemmed in by little two-by-four shops and surrounded by street hucksters, the kind of a structure that had descended the social scale to the status of a boarding house. It looked like a man who in his youth had been a gay young blade, but whose excesses had brought him to a bleary-eyed, bedraggled old age.

The interior was like an age long dead. Oil portraits hung about, so old that some of the characters wore the high "stock" collars and velvet coats of a hundred years ago. The furniture was so antique that such was never seen but in the hands of collectors. Everything about the place and in the owner's manner showed extreme penuriousness.

Even Miss Shalberg's two servants seemed of the ages long past—an old negro Mammy and a tottering old fellow she called "Hans". "Has been with our family fifty years," she said, when she noticed the boys looking after him.

Matt shuddered as he hurried away. "No, Jimmy, I wouldn't go in if I was paid for it. Such a ghostly old place; it's out west for me."

"Well, I'm staying in Philadelphia, wish you were too, Matt," returned Jimmy. "Don't blame you for not wanting to go into a place

like that, but gosh, old man, you can't tell about some of these old relics; looks like a miser to me."

"Not much chance. I'd go mad in such depressing surroundings and I'd never get a practice in such a place."

Soon the shingle, "Dr. M. J. Hastings, Dentist", hung before a neat little office in a good western town, and June and Matt were happily starting life together.

Tough going those first years, even if the west was booming. There was no money on either parental side to help out; no calling on Dad to set them up. They must do it alone.

One day, two years later, Matt got a paper cylinder in his mail. "Jimmy's writing," he mused, as he tore it open. "Ah, a Philadelphia Ledger; wonder why he sent me this?"

On the front page he saw it—marked around with red pencil:

Death of a Strange Millionaire Recluse

There died last Sunday at her old home at 1342 S— Street, Miss Rebecca Shalberg, aged seventy-nine. All her life she had lived here as a miserly recluse, and believed to be poor. She is the last survivor of the old family, the first member of which came from Germany four generations ago. Through the years they silently accumulated vast wealth, represented by valuable city property, gilt-edged stocks and bonds and cash.

It now transpires that this apparently poverty-stricken old lady, who would bargain always in the cheapest market, was worth considerably over a million dollars. To each of her two faithful old servants she gave thirty thousand dollars in cash before she died. She left no will, and there being no known heirs, it is possible the fortune will revert to the State.

Endogenous Factors in the Control and Arrest of Dental Caries *

By Charles L. Drain, D.D.S.,
and

Julian D. Boyd, M.D.,
Iowa City, Iowa

NEARLY one hundred years ago modern dentistry began concerted efforts to combat and control dental caries. Since that time, numerous studies have been carried out in an attempt to establish a first line defense against the disease. The theories of the causation of caries which have been generally accepted, until recently, have placed the blame upon effects of a certain group of bacteria. Efforts at prophylaxis have been directed against bacterial growth in the mouth. The futility of such attempts has been demonstrated by the occurrence and progression of caries coincident with and in spite of most vigorous efforts. As a nation we probably have as high a standard of mouth hygiene as can be found in the world, tooth-brushes, dentifrices and mouth-washes being used in abundance; it has been repeated with confidence that "a clean tooth never decays", and yet there is little evidence of lessening caries.

BACTERIA AND CARIES

THIS would seem to indicate that Miller's chemico parasitic theory is inadequate.

*From the College of Dentistry and Department of Pediatrics, State University of Iowa.

DIET AND DENTAL CARIES

THIS theory seemed satisfactory to explain the situation until various workers in nutrition began reporting their observations on the increased incidence of dental caries in animals receiving experimental diets as compared with their controls receiving a more general diet. Since that time there has been a growing conviction that dental caries was related to diet. This belief has been strengthened by the new knowledge that has been gained during the past 20 years concerning the need of the body for certain substances, some of them heretofore unrecognized, for normal growth or functioning of the body. The proved relationship of rickets to the deficiency of Vitamin D or of bone-forming minerals, and the dependence of scurvy upon diets short in Vitamin C, are but two examples of such interdependence of nutrition and health. Students of nutrition have studied the possibilities of the relation of tooth decay to deficiency of diet in certain of the recognized essentials. The Mellanbys¹, pioneers in the study of rickets and its dependence upon

(1) M. Mellanby, J.A.D.A. 17:1456, August 1930.

Vitamin D, have become convinced that insufficient Vitamin D is the important factor in producing dental caries. Howe², on the other hand, feels that Vitamin C plays an important part. He has shown that a shortage of this vitamin produces changes in the pulp earlier than demonstrable pathology can be detected elsewhere.

WORK OF MELLANBY AND HOWE

ABOUT seven years ago numerous observations of arrest and control of dental caries were made in our Children's Hospital dental clinic at the University of Iowa. The initial observations were made on a group of children who were receiving therapeutic diets because of metabolic disturbance. Thus their diets were strictly controlled and their contents well known. It was noted in this group at the time of their first admission to the hospital, that active caries was present, most usually of considerable extent; that after intervals of as brief as eight weeks these cavities showed no further evidence of active caries and that the bases became hard instead of soft and permeable as we know active caries to be. This arrest was apparent, practically without exception, in those children who had been under dietary control for three months or longer. A majority of these cases are still being observed, and many have open cavities which were reported on the first examination and in which the caries is still arrested. In addition, in the great majority

of these cases no new cavities have developed.

ARRESTED CARIES

IT HAS been the belief of proponents of the bacterial theory that the lessened intake of sugars and starches in the above group led to a corresponding diminution of bacterial fermentation in the mouth and thus to lessened caries. Their contention is not supported by further studies of the subject. For example, it was found that complete arrest of caries had been produced in children with chronic intestinal indigestion, who were receiving therapeutic diets which contained a minimum of fat, adequate protein, and the remainder of the calories in the form of sugar. In addition, it has been found in bacteriological studies, that the incidence of bacillus acidophilus and other acid-producing organisms is as great in the mouths of children with prolonged arrest of caries or no caries at all, as it was in children with extensive and active caries. We have postulated on the basis of these observations that dental caries is dependent on some dietary deficiencies, and that any diet which contains all of the recognized essentials for normal nutrition should be adequate to arrest and control dental caries. Since that time, many normal children have been placed on a supervised dietary which differs in no way from the foods recommended as being desirable for normal childhood nutrition and arrest of caries has resulted. It has been found that, almost invariably, if the child actually eats the foods recommended in the amounts prescribed, the caries is arrested in

(2) F. R. Howe, J.A.D.A. 14: 1864, October 1927.

from two to three months and no further progress is noted.

GENERAL HEALTH AND CARIES

WE HAVE concentrated our efforts on improving the general health of the child; of considering the whole child as the problem. Therefore the entire diet has received attention, and attempts have been made to insure adequacy in all respects as far as dietary knowledge permits. We have repeatedly reported arrested caries in the teeth of children, calling attention to the attendant improvement in the general condition³. We believe that a diet furnishing adequate amounts of all the essentials for optimum bodily health will control dental caries. We are also convinced that irrespective of the tooth tissues, arrest and control of caries can be effected, and that it is accomplished by establishing normal metabolic processes. Caries will not occur so long as these proceed in an orderly manner. We have found that, in the majority of children, faulty diet is responsible for the metabolic imbalance.

but must not be permitted to displace the more necessary essentials. The following foods are suggested as a daily intake for the average child of 5 to 16 years; for younger children, foods of the same nature would be employed, in appropriately smaller quantities; one quart of milk, at least one egg, one serving of meat, fish, chicken or liver, two vegetables, $\frac{1}{2}$ cup serving, one orange, apple or tomato, one additional fruit, one teaspoon of cod liver oil, and six teaspoons of butter. Other foods such as bread, cereal and potato may be added to satisfy the appetite, and maintain weight, but under no circumstances should they replace any of the above.

It should be emphasized that arrest and prevention of decay has required no measure other than the administration of an adequate diet, with no accessory medication, unless cod liver oil is to be so considered. Within recent years, certain manufacturers have placed on the market various concentrates of minerals, vitamins, endocrine products and what not, which are purported to arrest and control dental caries, if taken in conjunction with an adequate diet. Similar results are obtainable with the adequate diet alone. The use of such adjuncts is not only unnecessary, but it diverts the attention from the fact that healthy teeth are to be the rule rather than the exception if the requirements of nutrition are met.

FOOD FOR CHILDREN

IT IS best to have the diet consist chiefly of vegetables, fruits, and the dairy products, in order to insure a sufficient supply of the essentials. Starches and sugars have a valuable place, and should be used,

EXTERNAL TREATMENT OF CARIES

THE role of bacteria in the control of caries seems to be secondary. With the intake of the necessary tooth-building essentials,

(3) Drain, C. L. and Boyd, J.D.—J.A.D.A. 17:738, April 1930. J.A.D.A. 90:1867, June 9, 1928.

Am. J. Dis. Children 38:721, Oct. 1929.

the teeth become more resistant to the action of bacteria. In areas where decay has been active, a sclerosis occurs which serves to check further bacterial decomposition of the decalcified area, and recalcification of the intact dentinal matrix occurs. With a proper dietary, mouth hygiene seems to have little effect on the resistance of the teeth. Bunting⁴ has reported the results of observations made on 4 large groups of orphanage children; one group received a good diet, and also used a germicidal agent (Hexylresorcinol) in the mouth under standard conditions; a second group received a diet but did not use germicide; a third used the germicide but did not receive any dietary supervision; and a fourth group was used as a control. The first two groups showed arrest of caries in about equal degrees; the third group did not differ essentially from those of the control. These results correlate with those of our own clinic, as we have found that arrest of caries can occur in the presence of most unhygienic mouth conditions and that after arrest has been established acidophilic bacilli can be recovered in large numbers from the mouth.

ENDOGENOUS TREATMENT OF CARIES

WE HAVE believed from the beginnings of our studies, that endogenous factors are responsible for the arrest and control of dental caries and that preliminary to arrest, the tooth structure in some manner is made more resistant to exogenous influences.

The only satisfactory clinical method which we have found to measure the degree of carious activity, is that of probing or exploring the exposed carious surfaces with sharp exploring tines. It is true that the personal equation enters into the use of this method, yet the difference between activity and arrest can be demonstrated easily by any dentist familiar with it. We have cases in which arrested caries can be demonstrated in cavities which have been open and untouched for more than four years. The carious process was adjudged arrested in all of these patients by the clinical method of probing.

EVIDENCE OF ARRESTED CARIES

WE HAVE felt the need for histological proof of arrest of caries not only as further evidence that caries has been arrested, but to study the mechanism by which it occurs. Using the method described by Buest⁵, it has been possible for us to contrast the appearance of teeth of children on good, and deficient diets. Buest has shown that the tooth of the normal individual will respond to external irritations such as abrasion, thermal shock, or the presence of fillings, by deposition of secondary dentin in the adjacent dentinal tubules, resulting in sclerosis of the region. We have found that a similar reaction rapidly occurs around an open cavity, once the diet has been made complete. This correlates with the clinical observation

(4) Bunting, R. W., et al.—*Am. J. Dis. Child.* 40:536, Sept. 1930.

(5) *J. Dent. Res.*—11:2, 267, April 1931.
J. Dent. Res.—11:4, 619, Aug. 1931.

of hardening of the tooth under these circumstances and has been used to corroborate the clinical classification of carious activity. In teeth with active caries, noted clinically to be soft and permeable to the exploring tine, no sclerosis is demonstrable. The dentin surrounding the cavity is less dense than that adjacent to it and appears somewhat amorphous. Carious teeth have been removed before and after placing a child on an adequate diet and the differences in the degree of sclerosis in the two specimens is striking. It is apparent that this process is protective and reparative in nature, and is to be considered as an endogenous, physiological response of the tooth of a healthy individual to external irritation.

As our studies progress, we are more firmly convinced that endogenous factors must be considered as basic in the control of dental caries, that adequate diet is the most efficient means at hand and that the entire diet should receive attention. We have done nothing to determine whether caries can be attributed to any single causative factor. It is our belief that the integrity of the tooth is dependent upon the adequacy of the diet in all respects, and that probably the health of the tooth can be impaired through the inadequacy of any one of several essentials. We should treat, not the tooth, but the child, and direct our attention toward the health of the individual as a whole.

DENTAL SOCIETIES

Dr. Coupland Addressed the Hamilton Dental Society

Dr. Coupland commented highly on the work of Dr. Fred Williamson, radio expert, who had given his services gratis for 14 years and never refused a case, also on the work of Dr. Everett.

At the Royal Connaught hotel on Feb. 16th, Dr. Coupland spoke on "Dental Radiology".

Dr. L. A. Kilburn, president of the society, presided. Dr. Coupland was introduced by Dr. J. Carroll. The speaker showed radiograph slides, in his remarks suggesting a number of applications of that science in the general practice of dentistry. It was possible by this means to detect many conditions that otherwise could not be discovered in hidden cavities before they involved the nerve of the tooth.

By this means it was possible to detect conditions which might lead to cancer, also cancer conditions themselves and conditions in the mouth that tended to develop into malignant growths.

It had been reported by the Mayo clinic after a survey of many thousands of mouths, in one-third of those examined, from which all teeth had been presumably extracted, small pieces of the roots remained. It was desirable to take radiograph pictures not only of all teeth, but also of spaces from which teeth have been removed.

Detection of incipient disease was a most valuable function of radiology. Radiographic survey was indispensable as an adjunct to an oral survey, and the speaker suggested closer co-operation and the necessity of fine technique in this field.

Dr. Williamson advised against the folly of some people in objecting to X-ray examination. Dr. H. Field complimented the speaker. A vote of thanks was moved by Dr. Stewart, Burlington, and seconded by Dr. Brown.

In the afternoon Dr. Coupland at the clinic demonstrated dental radiography technique and addressed the Dental Assistants' Society.



Setting Up Dental Clinics

The setting up of dental clinics in all communities, especially to serve poorer children and give them better opportunity in life, was urged by Dr. F. J. Conboy, director of the dental service branch of the provincial department of health, addressing a meeting of the Weston Local Council of Women on February 19. The meeting was in charge of the public health committee.



Prosecution Failed in St. Thomas

A charge of infraction of the Dental Act in the Revised Statutes of Ontario, as preferred against Ed. Cleford, employee in the mechanical department of a local dentist's office, at the instigation of the Royal College of Dental Surgeons, was dismissed by Magistrate C. F. Maxwell. Evidence showed that Cleford had treated an aching tooth of a taxi driver on three occasions, at night, to relieve the pain, and had received no remuneration. The Court held that this did not constitute a dental operation within the meaning of the Act, at the time, pointing out that the Act is not clear in the definition of a dental operation.

An appeal will likely be entered.

Dr. Stanley Harper Lays Blame on Dental Troubles for Backwardness in Studies

The report of Dr. Stanley Harper, Senior dentist for the York Township Public School Dental Service, shows that the number of examinations made on the teeth of the children since the service was completely organized last Autumn is 11,001. Of this number it was found that 9,684 have defective teeth, a percentage of 88.

Up to the end of January the number of fillings put in the teeth of the school pupils is 7,527. Up to the same time the dentists have had to extract 2,423 teeth and work has been completed on the mouths of 1,652 pupils.

A wide difference in the dental condition of children attending the various schools is shown in Dr. Harper's report. The percentage of defects in the various schools is as follows: Harwood, 97; Roseland, 96; George Syme, 95; Lambton Park, 95; Bala, 94; Dennis, 94; Rawlinson, 94; Warren Park, 93; Humewood, 93; Silverthorn, 93; King George, 88; F. H. Miller, 86; Vaughan, 85; D. B. Hood, 80; Memorial, 77; Wilcox, 74; Humbercrest, 73.

"The last mentioned five or six schools had dental clinics before consolidation of the old section boards into the one board," Dr. Harper's report states. "The examinations of the children show that these schools have better dental condition than those which did not."

According to Dr. Harper, only the senior pupils can be given this service at the present time. This is done so that they will have good teeth when they graduate from school. It is the hope of the dental

staff to eventually give the service to the primary children and then keep their teeth in perfect condition throughout their school life.

"An interesting experiment is being conducted," the report states. "The dental officers are working on the classes where the pupils are slow in learning. It is my opinion that the defective teeth condition found in these classes is responsible for the tardiness of the children in learning their studies. I am of the opinion that with their teeth in proper condition these children will become better and more efficient pupils."

Dental Cavities Reduced by Proper Nutrition

Experiments by Toronto doctors have shown that cavities in children's teeth can be reduced 77% by a nutritive balanced diet, Miss Marjorie Bell, director of the Visiting Housekeepers Association, revealed on Feb. 19, before the Federation for Community Service in an address in which she stressed the necessity of nutritive food for growing children. To illustrate her contention, she drew attention to experiments upon the relation of nutrition to teeth being made by doctors of the Hospital for Sick Children.

"The average new cavities a year in teeth of Toronto school children are three," she said. "By an adequate balanced diet in two orphanages, they have been reduced to 1.5, that is, cut in half. By adding cod liver oil to that diet they were further reduced to .69, that is again more than cut in half."

Dr. B. Sproul Showed Eskimo Dogs

Lake Placid.—The Metro Goldwyn Mayer Film Corporation arranged with Dr. Beverley Sproul of this village to place his 11 Eskimo dogs on exhibition on stages of theatres where the picture, "Eskimo" is being shown.

The truck of the firm left with the dogs and sleds for New York, where they will first appear at the Capitol theatre, where the picture is being shown.

Dr. Sproul has won many sled races in the long runs of Canada with his Eskimo team, which is also to be filmed in a scene of the North in a new picture to be made by Metro Goldwyn Mayer.

Dr. Beverley Sproul was formerly a resident of Campbellton, where he practised the dental profession for some years. He is well-known in Dalhousie.



Dental Auxiliary

The Ladies' Dental Auxiliary held a delightful tea on Feb. 23rd at the home of the president, Mrs. J. Bothwell, on Rosedale Heights Drive. Mrs. Charles MacLean, Mrs. Wallace Seccombe and Mrs. J. L. Macdonald received with the president in the drawing room, gay with Spring flowers. Mrs. E. A. Grant was in charge of the dining room, and Mrs. A. E. Webster, Mrs. A. C. McDonagh, Mrs. Harold Clarke, Mrs. Walton-Ball, Mrs. W. S. Madill and Mrs. T. F. Perkins presided at the tea-table, which was effectively decorated in green and silver, with a silver basket full of natural grasses, and tall green candles in silver candlesticks. Many members of the association and their friends were present.

Dr. S. Woolverton, London, Retires

Sixty-two years ago the Royal College of Dental Surgeons granted a decree of Licentiate of Dental Surgery to the first graduate of dentistry in the Province of Ontario, Dr. Solon Woolverton.

Now at the age of 88, more than six decades after he first thrust a professional pair of forceps into an anxious mouth, the venerable dentist has decided to retire.

The last of his professional equipment, in his office at 214 Dundas Street, London, Ontario, was sold, and the office door was locked. Now he is ready to carry out a program he once outlined to the press, to enjoy life until he has reached the three figures.

Dr. Woolverton has been inquiring into cavities for half a century in London. For 12 years before that, he followed his profession in Grimsby.

Professional of appearance and nature, Dr. Woolverton with his little goatee and walking stick, is familiar to many Londoners. His active mind has a wealth of interest, and he is constantly preoccupied with such hobbies as geology and collections of strange relics and curios.



Psi Omega At-Home

Flags, banners, and decorations in sky-blue and white, the fraternity colors, were used in the Venetian Room of the Royal York Hotel for the annual at-home of the Psi Omega Fraternity. Dancing took place to the music of a large orchestra, and supper was at midnight. The many guests were received by Mrs. Wallace Seccombe, Mrs. Holly Halderson, Mrs. Joseph Johnson and Mr. David A. King. A few of those present were: Miss Dorothy

Thompson, Galt; Miss Mario Archer, London; Miss Mary Smith, Miss Mabel Swinden, Miss Billie Cumming, Miss Margaret Hutchinson, Miss Betty Chappee, Miss Lorna Fullerton, Dr. G. Prestien, of Galt; Dr. and Mrs. R. C. McLaughlin, Paris; Dr. and Mrs. A. A. Somerville, Dr. and Mrs. I. Cole, Dr. and Mrs. Fred Flora, Dr. A. N. Van Loon, Tillsonburg; Dr. and Mrs. W. Hugill, Dr. and Mrs. J. Johnson, Dr. and Mrs. H. Helderson, Dr. Donald Johnstone, Dean Secombe representing the Faculty of Dentistry, Mr. Winston Cunningham representing the Xi Psi Phi Fraternity, and many others.

Subscribers to Dental Dance at McGill

Among the additional subscribers to the annual McGill dental undergraduates' dance, which was held on Feb. 9 in the main dining room of the Mount Royal Hotel, are the following: Dr. A. L. Walsh and Mrs. Walsh, Dr. I. K. Lowry and Mrs. Lowry, Dr. W. G. Henry and Mrs. Henry, Dr. A. W. McClelland and Mrs. McClelland, Dr. F. G. Henry and Mrs. Henry, Dr. Sellar and Mrs. Sellar, Dr. C. H. P. Moore and Mrs. Moore, Dr. C. Flanagan and Mrs. Flanagan, Dr. F. N. A. Baxter and Mrs. Baxter; Doctors P. R. Marchand, E. Edward, R. E. McMahon, L. MacRae, G. Franklin, A. Oliver, R. Murray, E. Burbank, R. A. Wheatley, D. P. Mowry, J. Persk, S. A. Robinson, L. H. Stillwell, O. H. Lefebvre, C. H. Barr, J. Sparkes.

Dental Nurses Alumnae

Members of the Dental Nurses Alumnae, Toronto, met at the Faculty of Dentistry on the evening of Feb. 13. Following a short business meeting conducted by Miss

Adele Cameron, Dr. Frank Jarman spoke on "The Lives of Lister and Pasteur".

Kiwanis Minstrels Perform Before Large Audience at K.P. Hall; Show Proceeds Devoted to Dental Clinic Work

In K.P. Hall, North Vancouver Kiwanis Club staged its second annual minstrel show, "Twenty-fifth Anniversary". Long before the show commenced, the hall was crowded to the doors, and seats were at a premium. However, some conceived a bright idea in advance and brought along their own box seats and did not have to stand through the show.

Roy A. Hunter was the capable conductor and deserves much praise for his untiring efforts in training the boys. Mrs. Mahy was the efficient accompanist, assisted by an orchestra led by J. T. Parle.

Jack Gardiner, magician, created much interest, and Frank Chenoweth's chalk talk brought forth much applause. The Kiwanianettes had charge of the sale of candy. Proceeds from the show are for dental clinic work.

Joint Convention C.D.A. and O.D.A.

A joint convention of the Canadian and Ontario Dental Associations will be held in the Royal York Hotel, Toronto, May 21, 22, 23, 24, 1934.

A general meeting of the Canadian Dental Association will be held within the above dates, at a time to be announced in the Programme.

The Board of Delegates of the C.D.A. will meet at the same place on May 18, 19.

Dentist Injured

Dr. E. D. Hicks, Wallaceburg dentist, was taken to Chatham General Hospital as the result of an accident on Nelson street, Wallaceburg. Dr. Hicks was a passenger in a car driven by Cecil Bolt, also of Wallaceburg, when the car ran into the ditch. Dr. Hicks suffered a fracture of the left elbow joint and superficial cuts and bruises, while the driver of the car escaped with minor cuts and scratches. Dr. E. R. Tiffin was the attending physician. The car was badly damaged.

Tribute Paid to Hamilton Dentist

*Leaders of Profession Present
Silver Bowl to Dr. W.
Thompson*

Dr. W. G. Thompson received a beautiful, solid sterling silver punch-bowl on the night of February 19 from twenty-five of Canada's most outstanding men in the dental profession, at a surprise banquet in the National Club, Toronto.

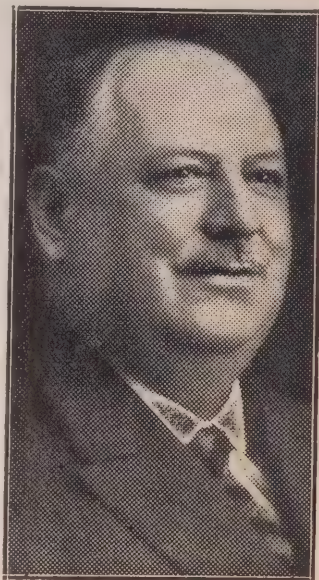
Today the beautifully embossed trophy adorns his office. It is a magnificent piece of work, adorned with ornate handles, and embossed with grape designs.

But it was all a beautiful surprise for Dr. Thompson.

It was a tangible appreciation of the work he had done for the dental profession as a whole, and of the admiration of the donors for him as a man and a dentist. It was stated that none had done more than he for the profession.

Dr. Thompson had received an invitation to attend a birthday party at the National Club, along with Dr. F. P. Moore and Dr. L. A. Kilburn, president of the Hamilton Dental Society. Dr. A. D. A. Mason

extended the invitation. But he did not say in whose honor the birthday party was being held. When they arrived in Toronto they found a huge banquet prepared, and 25 doctors present, who represented every branch of the dental profession in Toronto. It turned out the guest of honor was Dr. Thompson, although his birthday is really next month.



DR. W. G. THOMPSON

Who was presented with a beautifully engraved silver punch bowl by his Toronto associates of the dental profession at a gathering in the National Club of that city on February 19.

Dr. C. A. Kennedy, president of the Ontario Dental Association, presided. Before the punch-bowl was presented, five speakers covered Dr. Thompson's manifold activities. Dr. Frank M. Knight spoke of his sport activities, Dr. Gordon McLean told of the doctor's

activities at the Royal College of Dental Surgeons, where for some time he was a director. Dr. S. Woolatt paid tribute to Dr. Thompson's military record with the C.A.D.C. Dr. Fred C. Conboy, director of dental services, covered his association with the Ontario Dental Association.

Dr. H. Clark and Dr. Mason spoke of Dr. Thompson's sterling personality. Then Dr. C. Kennedy, Toronto, called on Dr. Thompson to receive the beautiful sterling bowl.

It bears the inscription: "*Presented to Dr. W. G. Thompson by his confreres in Toronto in recognition of his services in the profession of dentistry. 1934.*"



Prairie Dentist

Dr. L. D. Keown, of Moosomin, holds the honor of being Regina's first dentist. With a brother, also a dentist, Dr. Keown started to practise in Regina in 1886. He came from Toronto. They were the only two dentists between Brandon and Calgary. Moosomin looked like a better prospect than the tiny town of Regina in those days, so Dr. Keown moved to Moosomin in 1887. After 47 years he is still practising his dental profession there. He was a member of Moosomin's first council in 1889, and he was mayor of the town for four consecutive years, 1916 to 1919. He has been a member of the public school board for 44 years and is now chairman, and a member of the general hospital board for 20 years. His name in Moosomin is a synonym for public service. He has been president of the Moosomin Canadian Club. Forty-five years ago he organized the town's first brass band, and for 35 years he was leader of the Methodist church choir. An active leader in sports and lodges, he is one of Moosomin's leading citizens.

To the Members of the Canadian Dental Golf Association

Dear Members:—

Feeling as I do that this Association is not sufficiently well known, and has not been accorded the recognition it deserves, I am therefore addressing this open letter to the Profession. To make our present status clear, permit me to say, that with the exception of two meetings, viz: that of its organization in 1926 and the reorganization in 1930, it has really existed in name only. In the hope that with fuller knowledge, your co-operation may be secured, I am taking this opportunity to briefly review our history, calling attention to certain discrepancies, and giving reasons why the existing state of affairs should be changed.

Our next meeting will be held in Toronto, in May of this year, and my appeal to you is to effect the necessary changes on this occasion, and place the Association on a sound footing, by the adoption of by-laws which will not only add to the pleasure of such gatherings by having them conducted in a systematic manner, but will also provide for the keeping of accurate records of its activities.

Your Association was organized at a golf dinner held at the Halifax Golf Club during the meeting of the C.D.A. which convened in Halifax in 1926. Mr. F. B. Pearson, the then Chairman of the Board of Governors of Dalhousie University, was asked to preside on that occasion. Twenty members were enrolled, each paying a nominal fee of one dollar for that privilege. The following officers were elected:—

President—Dr. G. M. Magee, Saint John, N.B.; Vice-President—Dr. W. M. McGuire, Simcoe, Ontario; Secretary-Treasurer—Dr. Warren C. Oxner, Halifax, N.S.

The prizes, won by the members at the tournament held over the

Ashburn course, were presented by Mr. Pearson.

As usual, the dental manufacturers and dealers contributed generously. Also, and in anticipation of the formation of the Association, a large cup, emblematic of the championship, was awarded by the Nova Scotia Dental Association. In addition to these, beautiful trophies were presented by two individual members, Dr. Geo. K. Thompson of Halifax, and the late Dr. Fred Mallory of London, England. Each of these was a replica of famous cups. It was stipulated that the Championship cup, as well as Dr. Mallory's, were for annual competition, while Dr. Thompson's was to become the property of any individual winning it three times. The reason for this detail will be obvious presently.

Previous to the next meeting of the C.D.A. in 1928, your Secretary forwarded to the local golf committee of the city in which the meet was to be held, the cups to which reference has just been made. Also the minutes of the organization meeting together with a cheque for the amount of the fees paid by the original members. When the prizes were presented at this meet, I understood no reference was made to the C.D.G.A. Again in 1929 during the meeting of the C.D.A. in the West, a golf tournament was held, but after considerable correspondence, so far as I have been able to ascertain, neither of those meets was held under the auspices of the Golf Association, for I have been unable to secure any minutes of either. During one or both of these meets, the small amount of money belonging to the Association was no doubt spent in the best interests of the golfers, and that is perfectly right; but no account of it has ever been given to the Secretary. At the meet held at Mt. Bruno in Montreal, in 1930, it was

deemed wise to reorganize the Association, and this was accordingly done.

Dr. A. W. Mitchell of Montreal, was made Secretary-Treasurer, and I had the honor of becoming the President.

On this occasion, when it was learned that through some misunderstanding two of the cups originally donated for annual competition were missing, your committee undertook to formulate a short set of by-laws, which would provide for more method in the conduct of the meets, and for the keeping of accurate records of its activities. Considerable time was spent on this matter, and now through the courtesy of Drs. Webster and Seccombe we are publishing in the columns of their respective journals, the proposed by-laws as they stand at the present time.

This is done so that all may be familiar with them when we again meet. Some changes or alterations may be necessary, and if so, that is easily accomplished.

Your committee earnestly ask your interest and co-operation in this matter, so that when we get together there may be as little delay as possible in the adoption of the by-laws, and when that is accomplished fact, your Association can function immediately, and in the best interests of all.

Sincerely yours,
WARREN C. OXNER,
President.

BY-LAWS

ARTICLE I.

NAME

SECTION I.—The Association shall be named the Canadian Dental Golf Association.

ARTICLE II.

OBJECTS

The objects of the Association are to encourage friendly competition in golf among the ethical members of the dental profession in Canada, and to hold a tournament during each meeting of the Canadian Dental Association, at a club in the district in which such meeting is being held.

ARTICLE III.

OFFICERS

SECTION I.—The officers shall be a President, two Vice-Presidents, a Secretary-Treasurer, and a Managing Committee of three, all to be elected at the annual meeting of the Association. The Managing Committee of three to be elected from the district in which the ensuing meet is to be held.

SECTION II.—The President shall preside at all meetings of the Association. He shall be ex-officio, a member of all Committees, with power to fill vacancies by appointment.

SECTION III.—The Vice-President shall, in the event of absence of the President, act in his stead in all matters, and in case of absence of both President and Vice-President, the Second Vice-President shall act in their stead.

SECTION IV.—The Secretary-Treasurer shall have charge of the funds of the Association and deposit same in the Bank as the President or Managing Committee decide. He shall pay all bills and shall render a statement of receipts and expenditures for the year at each annual meeting.

SECTION V.—He shall attend to the correspondence of the Association, shall keep the minutes of the meetings, shall send out bills for fees and dues and issue a member-

ship card to each member as dues are paid. He shall advise each member of date and place of annual tournament, with full particulars of same, and shall complete such other secretarial work as may be in the interest of the Association.

ARTICLE IV.

MEMBERS

SECTION I.—Any ethical dentist attending meeting is eligible for membership.

SECTION II.—Any member may be expelled by the officers of the Association, after a notice in writing of the charges preferred against him has been sent him and a reasonable opportunity has been given him to be heard.

ARTICLE V.

MEETINGS

SECTION I.—The regular meeting (and dinner) or other such time as arranged by local committee for the transaction of business, the election of officers and Managing Committee shall be held on the day of the tournament, such date and hour to be stated in advance of meeting, preferably in circular to the members when announcing particulars of meet.

SECTION II.—Members of the Association present at the regular meeting shall constitute a quorum.

SECTION III.—The Managing Committee shall meet to transact any business, and "co-operating with the President and Secretary" shall make all arrangements for the ensuing tournament in ample time for due notice to be sent to the members.

SECTION IV.—The order of business shall be:

1. Reading the minutes.
2. Report of the President.
3. Report of the Treasurer.
4. Report of the Committees.

5. Unfinished business.
6. New business.
7. Election of officers and Managing Committee.

ARTICLE VI. APPLICATIONS

SECTION I.—The charter members are composed of those who joined and paid fees at the organization meeting.

ARTICLE VII. FEES

SECTION I.—The annual fee shall be one dollar.

SECTION II.—The life membership fee shall be?

ARTICLE VIII. TOURNAMENT

SECTION I.—The charge for the tournament fee including dinner, shall be left to the discretion of the local Managing Committee.

ARTICLE IX.

TOURNAMENT MEETING PLACE

SECTION I.—The tournament shall be held at a club in the district in which the Canadian Dental Association meets.

ARTICLE X. PRIZES

SECTION I.—Cups or other prizes which are presented for Annual Competition shall be returned to the Secretary, one month previous to date of the ensuing tournament.

ARTICLE XI. AMENDMENTS

SECTION I.—These By-Laws may be amended by a two-third majority vote of the members present at any annual meeting, with or without any previous notice of same.

ARTICLE XII. HANDICAP

SECTION I.—Members' home club handicap will be accepted subject to approval of local Managing Committee.

SECTION II.—This committee shall also arrange all competitions.

Kent County Association

A large turn-out of the dentists from all over the country was in attendance at the meeting of the Kent County Dental Association at St. Joseph's Hospital, Chatham, on Thursday afternoon, February 22nd. Dr. R. C. McCutcheon, of Highgate, gave a very fine clinic on "Oral Surgery" and also "Immediate Denture Insertion".

The wives of the members were entertained at bridge and tea at the William Pitt Hotel during the afternoon and joined to have dinner in the evening with the University of Toronto Alumni Association. The guest speaker at this banquet was Professor McKenzie of the Law Department of the University of Toronto. In addition there was a splendid musical program interspersed with College yells, which was followed by dancing.



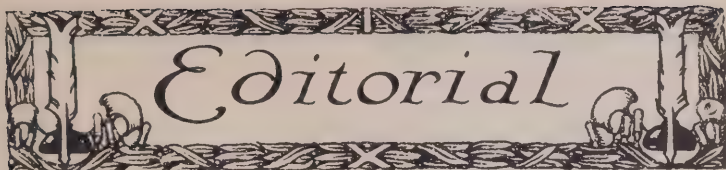
London Dental Assistants' Association

London Dental Assistants' Association held their monthly meeting February 12th at the office of Dr. H. A. Taylor. Dr. Taylor was the speaker of the evening, giving a very interesting and instructive address on the "History of Dentistry".



Halifax Dental Assistants' Association

The regular monthly meeting of the Halifax Dental Assistants' Association was held on Feb. 6, 1934, in the Green Lantern, at a dinner. The new President, Miss Bowes, was in the chair. After a brief business session the meeting adjourned.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

ASSOCIATE EDITORS

QUEBEC—Eudore Debeau, L.D.S., D.D.S., Montreal.

ALBERTA—Leslie McIntyre, D.D.S., L.D.S., Edmonton.

NEW BRUNSWICK—James M. Magee, L.D.S., D.D.S., St. John.

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BRITAIN—J. Menzies Campbell, D.D.S., L.D.S., F.R.S.E., Glasgow, Scotland.

VOL. XLVI

TORONTO, MARCH, 1934

NO. 3

The Coming Dental Meetings

CANADIAN Dentistry meets in Toronto May 21-22-23-24th, 1934. All the Canadian National Dental Interests will be represented. The chief conference will be that of the Canadian Dental Association. This organization should have several reports to make concerning dental relations with the Mother Country and the Dominions, as well as foreign countries. These reports should be prepared in good form and presented to the whole gathering. It used to be the practice for the Dominion Dental Council to report their doings to the general meeting of the Canadian Dental Association. Let us hope that the practice will be revived and extended. Every Canadian dentist would show an interest in National Dental Affairs if the reports only told the interesting things.

We humbly suggest that this Council tell how they were appointed to the Council; what salary they get; what is the financial standing of this Council? When and by whom are the examiners appointed? How they prevent candidates sending examination papers by wire from Halifax to B. C. before the examination begins in B. C.? How can a graduate get a D.D.C. Certificate without writing on an examination? These, with other questions, might hold a dental audience in the early part of the meeting.

Ontario Dental Association

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THE board of directors of the Royal College of Dental Surgeons might well report their doings to the General Dental Meeting. It is not enough for the Board to write down their resolutions—have them printed and sent out. As in the D.D.C. the interesting things might be repeated.

Consider Economy in Dental Organizations in Canada

•

AT this meeting there will be meetings of the Dominion Dental Council and the delegates of the Canadian Dental Association, many of whom will travel over two thousand miles and spend two weeks of time to do important business we will admit, but there is no good reason why one organization could not do the business better because of the closer contact. The Ontario Legislature has reduced its number of members—so why not reduce dental organizations in members, and increase their efficiency!

DENTAL NOTES

Fire did considerable damage recently to Dr. R. W. Matchett's office in Hamilton.

—•—

The Ladies Dental Auxiliary held a meeting recently in the Round Room of the T. Eaton Company. Judge Hosking gave the address on

"The Changing Aspects of Home Life".

—•—

The Jewish Dental Society will be asked to appoint a representative to sit on the Board of Trustees of the Federation of Jewish philanthropies.

Will Open Dental Practice in Toronto

Dr. Harold Aljoe, recently of London, England, is visiting parents here, and expects to settle in Toronto immediately.

A Dental Survey

The Dental Society of New Brunswick has made a survey of 8,000 children in co-operation with the Provincial Dept. of Health.

The provincial legislature of New Brunswick is providing medical and dental services free for all those on relief.

The dentists of Oshawa, Ont., have agreed to care for the teeth of the children of the poor for \$8,000 a year.

Dr. Jackson told the Public Health Department at a recent meeting in Toronto, that \$8,350 would be necessary to carry out the proposed dental clinic as suggested by the Board of Control.

Residents of Glace Bay, N.S., ask the Provincial Government for free dental attention especially for school children.

The Kinsmen Club of Simcoe, Ont., besides supplying a supervised playground and swimming pool, conduct free dental clinics in conjunction with a local dentist.

Eight classes in Toronto public schools have already attained the mark of 100 per cent. dental perfection in the care of the teeth of the pupils and many more classes are now striving for that goal.

Dental Profession Honors Dr. D. M. Gallie

An Oakville old boy, Dr. Donald Mackay Gallie, lately retired head of the department of operative dentistry at Illinois University, was honored by more than 700 of the dental leaders of United States in a banquet at the Stevens' hotel, Chicago.

Dr. Gallie formerly lived at the corner of Church and William Sts.



DONALD MACKAY GALLIE
D.D.S., F.A.C.D.

in Oakville, where he was born. His university training was received in United States, where he rose to the head of his profession.

Dr. Gallie has been a teacher of dentistry for 41 years, and is a past president of the American Dental Association. His retirement marks the end of 29 years' association with the University of Illinois, the title, professor emeritus, being conferred upon him.

Ontario Medical Council Exams to be Abolished

LEGISLATION of deep interest to physicians and dentists was introduced into the Ontario Legislature Friday, March 2, by Hon. Dr. J. M. Robb, Minister of Health.

An amendment to the Medical Act eliminates the necessity of the Ontario Council examinations, which for many years the graduate in medicine has tried before his "Dominion Council". Feeling among the medical profession was generally in favor of abolition of the Provincial tests, which permitted a doctor to practise only in Ontario. In future, if the legislation carries, the Medical Council of Canada will hold the only examinations in Ontario which the graduate will be called on to try.

AMENDMENTS TO DENTISTRY ACT

THE Dentistry Act amendments are directed against the many who have been practising the profession without qualifications. A difficulty of obtaining convictions has been the necessity to prove that a patient actually received dental treatment. Under the amendments, the fact that a person possessed an office with standard dental equipment will be sufficient for conviction.

Another amendment of interest within the profession ensures greater secrecy in voting for election to the Board of Directors of the Royal College of Dental Surgeons.

Nanaimo Parent-Teachers' Association asked permission of the city council to hold a tag day to help to meet the cost of operating a dental clinic.

Legal

A student may be legally dropped from the roll of a professional school. A medical student at the University of Texas failed to live up to the requirements from an academic standpoint and was dropped from the student list at the end of the second year. He sought to obtain a writ from the courts ordering the University to readmit him. A student attends a department of an educational institution subject to reasonable rules known in advance. If there is a desire to change these rules it can be done by the legislature through which the power to fix standards is vested in the regents of the institution. In order to obtain the consent of the courts to interfere it must be shown that the board has acted arbitrarily or has abused its authority. Under these circumstances the Supreme Court of Texas refused to interfere with the decision of the University authorities.—*L. Mc.*

Minnesota

A dentist was polishing a bridge in a patient's mouth and cut her. She sued for malpractice and obtained large damages. The dentist appealed claiming there was no evidence on which to base an adverse verdict. The Supreme Court allowed the verdict of the lower court to stand on condition that the plaintiff consent to a reduction in the damages awarded.—*L. McI.*

A Specialist

A *specialist* has been defined as one who knows a great deal about very little, and he goes on knowing more and more about less and less till he knows everything about nothing.

BOOK REVIEW

A Review and Criticism of "THE WAY OF HEALTH INSURANCE". A. N. Simons and Nathan Sinai. By Hugh H. Wolfenden, Consulting Actuary and Statistician, Fellow, Institute of Actuaries (Great Britain) Fellow, Actuarial Society of America, Fellow, Royal Statistical Society, Member, American Statistical Association, Member, American Mathematical Society.

IN 1930 a Committee was appointed by the American Dental Association to co-operate with the Committee on the Costs of Medical Care, which had been organized in 1927 to explore the whole field of the economic aspects of medical problems. The Committee of the American Dental Association, feeling the need of information on national health insurance, voted funds for a study of the subject, which later were augmented by the American College of Dentists; and the writers of this book were then appointed to make the investigations which were thus considered necessary.

After an introductory chapter, the "Origins of Health Insurance" and "The Lines of Evolution of Insurance Systems" are first discussed; the German Insurance System and British Health Insurance occupy the next two chapters; the "Effect on the Medical Professions" and "Special Dental Problems" are then considered; and the seventh and eighth chapters on "General Social Effects" of compulsory health insurance and its "Outlook in the United States" are followed by "Some Conclusions" which give a general survey of the authors' viewpoint.

It may be said at once that the book contains a vast amount of detailed information, obviously collected with great diligence, system-

atically presented and well planned throughout, and supported by facts and opinions quoted extensively from European literature. Although most of the important material is available elsewhere in somewhat more succinct form, nevertheless the authors have included a number of statements of fact, particularly with reference to the attitude and special problems of physicians and dentists in relation to health insurance plans, which it is well to have within the compass of one volume. There are useful detailed accounts of the neglect of the medical and dental professions by the original framers of the German and British legislation, and by the International Labor Office in the drafting of its proposals for the consideration of its constituent nations; and the evidence concerning the differences between those professions and the societies through which the plans are administered is also valuable, so long as it is considered carefully and with a greater appreciation of the fundamentals of insurance than the authors sometimes show. The seventh chapter in particular contains a good statement of dental practice under the German act, with a criticism of the type of work; and the history of the gradual development of dental care as an additional benefit in Great Britain, and of the French system, in which from the first the dentists and physicians have been included upon all the administrative bodies, is effectively set out.

The book, however, contains much more than this merely specialized material. In addition to the necessity which the authors, in common with so many others, have felt for an examination of the philosophical beliefs underlying governmental plans, many questions are naturally discussed which involve a wide and detailed knowledge of insurance principles and

practices, and thus frequently provide opportunities for comment. The chapter on "General Social Effects" is, mainly, very sound, and properly points out many of the undesirable effects of compulsory insurance legislation; and the inevitable changes which such legislation brings in the relations of the doctors and their patients, in the attitude of beneficiaries to governmental instead of private funds, and the opportunities which it presents for the campaigns of politicians and the ingenuity of malingerers, are also recognized both in this chapter and in other sections.

(To be Continued)

Suspecting the Worst

I saw patient Saturday night. He then asked me to send him to your hospital. At the time of my visit he was suffering from Angina Pectoris, severe pains in head, back and legs. He has had headache and insomnia for a few weeks. I suspect *pyorrhea*.—*Extract from N.Y. letter.*

—●—

J. J. Talman Tells of Pioneer Days in Upper Canada

The good old days?

"Quite young people in the early pioneer days of Ontario looked twice their age on account of their bad teeth," said James J. Talman, M.A., addressing the Canadian Women's Historical Society on "Pioneer Women in Upper Canada". The lack of dentists, he pointed out, did not infer that teeth were good, nor did it encourage the growth of good teeth.

Vitamins and calories were unknown, but pork and flour did instead. It was not enough for the housewife of early Ontario to be able to treat minor ills, but fever and ague cases were liable to be on her hands at any time.

CORRESPONDENCE

February 28, 1934.

The Editor,
Dominion Dental Journal,
c/o Consolidated Press Ltd.,
73 Richmond St. W., Toronto.

Dear Sir,—I have just seen the article on page 26 of your January, 1934, issue under the caption "Two New Scholarships Offered in Dentistry", and, as I fear it will result in misapprehensions on the part of your readers, I hasten to draw your attention to it.

The James Branston Willmott Scholarships in question are not new, the first award under them having been made during the Session 1928-29. And, as a matter of fact, instead of being newly established next session, they are actually being withdrawn. Announcement was made in this session's calendar of the Faculty, that next session they would be replaced by three scholarships, to be competed for respectively by the Second, Third and Fourth Years.

Under the circumstances I shall be pleased if you will publish a correction of the article in your next issue.

Yours very truly,

COLIN C. ROUS,
Secretary.

—●—

February 17, 1934.

The Convention of the Canadian and Ontario Dental Association will be held in the Centennial City of Toronto during Carnival Time, May 21st, 22nd and 23rd, 1934. A very fine program of essays and clinics has been prepared. Guests will be welcomed.

FRED J. CONBOY,
Secretary-Treasurer,
Ontario Dental Assoc.

86 Bloor Street West,
Toronto, Ontario.



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lined to avoid the slightest contamination from raw metal. Their contents are measured by delicate precision instruments to insure uniformity. In every step of manufacture Pepsodent Antiseptic is truly a laboratory-controlled product.

THE PEPSODENT CO., TORONTO

Royal Dental Hospital Reunion (London, Eng.)

Alumni and staff held its annual reunion November 25. A "Clinic at home", with inspection of the new radiological museum and children's work was a feature. A dinner in the evening, attended by 150, was presided over by Mr. J. G. Turner, F.R.C.S. Mr. Turner, in speaking, said that the idea commonly held suggested that British dentists had sprung from the R.C.S. of England about the middle of last century. However, he gave credit to a Scotsman, Mr. Rae, who practised and taught dentistry at University of Edinburgh in the middle of the eighteenth century. Mr. Rae was the first to give a systematic course of lectures in surgery in the University. Was Rae, the surgeon, the progenitor of the modern dentist, or Rae, the dentist, the progenitor of the modern surgeon? Dr. Wm. Hunter at the beginning of the present century made the discovery that the art of dentistry was more closely related to medicine than surgery. He hoped that through a toothache some millionaire could be brought to endow a department of research.

—From *Br. Med. Jour.*

Kingston Association

The regular monthly meeting of the Kingston Dental Assistants' Association was held on Monday evening, Feb. 19th, in the office of Dr. J. C. W. Broom, Wellington St., with the President, Miss Daisy Gibbs, in the chair.

During the course of the meeting, Mrs. G. C. Dewar gave a very interesting talk on "Inlay Work", and a very hearty vote of thanks was moved to the speaker by Miss Harpell.

It was decided that the March meeting be held in the form of a bridge and euchre party.

General Dental Supplies

Canada, Province of Manitoba. To Wit: In the matter of "The Partnership Act" and in the matter of "General Dental Supplies". I, Joseph H. Bloom, of the City of Winnipeg, in the Province of Manitoba, Merchant, hereby declare:— (1) That I intend to commence carrying on business in the City of Winnipeg, in Manitoba, under the firm name and style of "General Dental Supplies" on the 1st day of February, A.D. 1934. (2) That no other person is associated with me in the said business.

Dated at Winnipeg, this 23rd day of January, A.D. 1934.

Witness: J. Myers.
JOSEPH H. BLOOM.

—●—

Ultraviolet Therapy in Oral Diseases

At the request of the Council on Physical Therapy, the Council on Dental Therapeutics of the A.D.A. co-operated in an investigation on the effects of ultraviolet radiation in dental therapeutics. The report recommended that no adequate controlled evidence had been presented to warrant the use of this treatment in oral diseases and conditions.

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School Dentists' Report

There follows an itemized summary of the amount of work performed by the school dentist, Dr. G. K. MacIntosh, during the month of January, as compiled from information received from the office of the Board of School Commissioners.

Total patients, 169; new patients, 90; extractions, 171; fillings, 58; treatments, 14; examinations, 22; prophylaxis, 18.

You know, Doctor, better than anyone!

NO need to tell you, Doctor, of the damage being done by dental preparations which promise or imply dental cures. You know, better than anyone else, the harm they do to your work, which is to promote oral health.

Thousands of people may confidently believe that these dental preparations can effect dental cures. When it's too late, when their trouble has reached an advanced stage, they may realize that *all* a toothpaste can do is clean teeth. *Only* a dentist can cure.

For 30 years Colgate's has recognized its duty to the public and to the dental profession. For 30 years Colgate's one claim has been "Colgate's can only clean teeth". Never will Colgate's claim to take the dentist's place.

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21c per tube
2 for 39c



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R I B B O N D E N T A L C R E A M

OBITUARY

Dr. Harry Gilroy, City Dentist, Died in Hospital

Dr. Larry Gilroy, aged 52, well-known Vancouver dentist, died February 11th in the General Hospital, following a brief illness. He was a native of Smith's Falls, Ont.

The deceased graduated from the College of Dentistry, University of Maryland, at Baltimore, and practised for a time at Spokane, Grand Forks and Prince Rupert before coming to Vancouver. He was a member of the Prince of Wales Lodge, A.F. & A.M., and the Quadra Club, where he resided.

He is survived by his mother at Smith's Falls, and a sister of Detroit.

—•—

Dr. Gatewood Dies Suddenly

Dr. Charles H. Gatewood, 69, pioneer dental surgeon of Vancouver, died suddenly in Vancouver

General Hospital on February 6, following a few hours' illness.

Dr. Gatewood, who was born in Middlesex County, Virginia, was many years prominent in sport circles and also took an active part in public affairs.

He was a member of the Rotary Club, Vancouver Club, a life member of Jericho Country Club and prominent in Masonic circles. He served on the Park Board and the Board of Directors of Vancouver General Hospital. He resided at 1646 West Twelfth Avenue.

He was master of Cascade Masonic Lodge in 1898, ten years later founding the Western Gate Lodge, of which he was first master. He retained membership in Cascade Lodge.

Dr. Gatewood is survived by his wife, one daughter, Frances V. Gatewood, and one son, William Horace.

FOR SALE AND WANTED

BUSINESS OPPORTUNITY--

For men who know how to sell. We want to develop a staff of live, energetic men with selling experience to represent three leading Canadian publications. It is spare-time work we offer. No interference with your regular occupation. No investment required—we supply all materials required. Real good commission and bonus arrangement for producers. Write Box 21, care of Dominion Dental Journal, 73 Richmond W., Toronto.

THREE PIECE SUITE FOR SALE—Settee, chair, and rocker, massive mahogany frames, beautiful finish, silk tapestry upholstery in first class condition. Suitable for waiting room of professional man's office. \$25.00 or near offer. Call Lloydbrook 5011. Box 112, Dominion Dental Journal, 73 Richmond W., Toronto.

FOR SALE—Dental Office Equipment in first-class condition with good-will of practice, in Ottawa, Ont. Owner wishes to retire. For particulars address Box 113, Dominion Dental Journal, 73 Richmond St. W., Toronto.



PHILIPPE HAMEL

President C.D.A.

ORIGINAL CONTRIBUTIONS

A Glance at the Canadian Dental Association

By Philippe Hamel,
President of the Canadian
Dental Association

I WROTE this article at Dr. Webster's kind request. As the subject was left to my choice, without hesitation I grasped this occasion, in an endeavor to make some dentists more cognizant of the activities and the necessity of the Canadian Dental Association.

For six years I have observed closely the efforts of such men as Dr. John Clay from Alberta, Dr. Harry Garvin from Manitoba, Dr. Fred J. Conboy from Ontario, Dr. A. W. Faulkner and Dr. J. Stanley Bagnall, both from Nova Scotia, and I can assure the profession that these confrères, with many others, have performed tremendous work, though almost silently, to build a nation-wide association.

For practitioners, to awaken interest over different dental problems all through this immense country is a task which is surely not enviable because of its almost discouraging scope. A dentist's leisure seems too short for the magnitude of such work.

Yet our profession cannot be organized to protect its interest throughout Canada and in foreign countries, unless it maintains and

perfects an undertaking such as the Canadian Dental Association.

It is well known that in each Province of Canada, dentistry has a local organization functioning very satisfactorily.



PROVINCIAL DENTAL BODIES

SUCH bodies can look after provincial matters, and also, but with less influence, after federal questions. Nevertheless, numerous are the occasions where the lonely intervention or protest of one Province against unfair legislation or rulings, cannot bear the same effect as when the efforts of all the Provinces are co-ordinated towards the same end.

By the intermediate action of the Canadian Dental Association, any Provincial Board can obtain the concerted efforts of the sister Provinces to remedy abuses or to prevent the promulgation of unjust laws against the general interest of the profession or of the public.

Our Association is an undeniable necessity, and the sooner we can obtain more publicity to tell the

Canadian dentists about its activities, the better it will be for the welfare of our profession.

CANADIAN MEMBERSHIP

THE Canadian Dental Association has presently on its membership list, all the ethical dentists of Saskatchewan, Alberta, Manitoba, Nova Scotia and Quebec. From British Columbia, New Brunswick and Prince Edward Island, the representation is splendid although not on 100 per cent. basis. In 1933, the Province of Quebec had taken the lead for the largest membership, but Ontario will have all records beaten this year when every ethical dentist of Ontario will become a member of the C.D.A., according to recent decisions of the Royal College of Dental Surgeons and of the Ontario Dental Association.

The depression seems to have been an eye-opener to the importance of more co-operation between dentists. The constant increase in our membership, since two years, stands as a proof of more solidarity developing between men who suffer no more from the blurring effect of a vanished prosperity.

PROTECT THE PROFESSION

LET us protect our profession on the scientific and moral ground first and above all, and then let us also protect it along lines of less elevation but still of paramount importance; the material end of the profession which has to count with dollars and cents.

Dentists live with the knowledge of their art, but the love of science must not exclude the want of protection against selfish and unfair deals.

No other organization but the C.D.A. can fulfil for us such work of protection with equal strength and effectiveness.

SOME OF ITS ACTIVITIES

THE Canadian Dental Association has begged the Federal Authorities in March, 1933, to create a Commission for the purpose of investigating the financial and economic structure of this country.

This demand was supported by seven Provincial Dental Boards.

This comes to show how deeply dentistry is interested in the welfare of our country. Dentists in difficult times do not remain self-centred into the exclusive practice of their profession. They wish to participate by every possible means in the efforts made for a much wanted social restoration.

DENTAL RESEARCH

THE Canadian Dental Association has encouraged research work in the dental field, firstly by forming a special committee for that purposes, then by organizing contests in which the winners received valuable medals as prizes.

CUSTOM DUTIES

THE Canadian Dental Association has examined the custom duties imposed unjustly on some of the materials imported for our profession, and has protested to the proper authorities in order to rectify some conditions harmful to the dentists and to their clientèle as well.

INCREASED PRESTIGE

THE Canadian Dental Association has increased the prestige of Canadian dentists in foreign countries by appointing official representatives to all dental congresses and conventions of any importance, and by extending to all notable dentists or groups of dentists visiting officially this country, honors coming from a body representing the entire profession.

STATE DENTISTRY

THE Canadian Dental Association has made a study of State Dentistry, Liability Insurance, and "La Coöperative des dentistes de France", and is ready to supply information at short notice on any of these subjects. Thus the profession is prepared to give valuable data should the request be made by any Government for the preparation of new legislation.

Since a few years ago, the Canadian Dental Association has been preparing for the publication of a National Dental Review. In most countries where dentistry has really made progress, the profession has at least one dental journal published under its own responsibility. Canada is not up to the mark in this respect. It is our hope to correct this defectiveness during this year. (This, of course, reflects no discredit whatever upon

the dental journals already published and towards which the C.D.A. remains grateful and well disposed.)

MILITIA AND INDIANS

THE Canadian Dental Association has taken interest in the revision of the dental fees for the permanent Militia and for the Indians. The acuteness of the depression has, here, paralysed temporarily our negotiations with the authorities.

The Canadian Dental Association, small organization financially, but strong and powerful by the devotion of its members, has prepared the ground, discreetly, for a great nation-wide organization which will stand as the Temple safeguarding the sacred rights and privileges of the Canadian dentists.

. . .

These are, in brief, a few points which I have roughly placed before you, with the end in view that they will add to the interest every dentist should take in an association which exists for the betterment of dentistry and no other reason.

Let us co-operate and make our own association as dignified and as powerful as its sisters—the British Dental Association, the American Dental Association, L'Association Odontotechnique de France, etc.

Early Detection of Proximal Cavities in Posterior Teeth and Methods of Treatment

By P. G. Anderson, D.D.S.,
Toronto, Canada

*Given Before the Hamilton
Dental Society, November, 1933*

THROUGH the educational programs of our different Health Departments and through personal patient education, there is certainly a greater demand being made at the present time by the laity, for a more efficient Mouth Health Service. At one time the complete examination for such a service consisted of a careful examination of the surfaces of the teeth with a mouth mirror and a favorite type of explorer, combined with certain observations which may or may not have been performed. Unfortunately this is still the too-common method of examination.

Time will permit me to dwell only on that phase of the subject of Mouth Examination that comes as the result of some observations you, as well as I, have made in connection with clinical examinations, which gives rise to the question of,—(a) what constitutes a complete examination for cavities, and (b) at what time should cavities be filled.

When we have patients who submit themselves for regular examination, they signify their consent and co-operation in their dental

care, and expect in return our most practical thorough examination and good judgment.

•

BITE WINGS

IF WE are to progress in our judgment as we most certainly have in technical ability, I think we must go a little farther than a mirror and explorer alone, and make use of some other adjunct which is available to us. By this I mean the use of the interproximal X-ray or better known as the "bite-wing" X-ray.

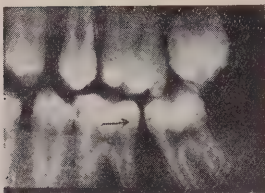
Just for the moment I shall mention proximal cavities only. Dr. Howard Raper, to whom is given the credit for the "bite-wing" technic, classified proximal cavities into four groups, as follows:

Group I.—Cavities showing a nick in the enamel only.

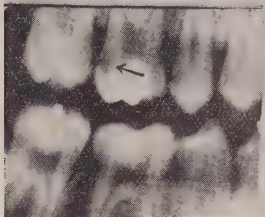
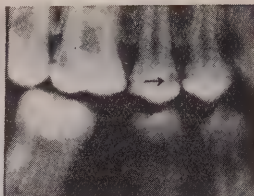
Group II.—Cavities showing a nick in the enamel and a radiolucent zone at the dentino-enamel junction.

Group III.—Cavities showing a nick in the enamel with the zone in the dentine now bellying into the dentine toward the pulp.

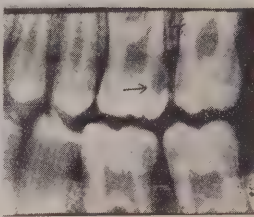
Group I



Group II



Group III



Group IV

Group IV.—Cavities showing a nick in the enamel, the perforation through the enamel, and the carious process bellying well into the dentine.

Figure (1).

"We may look upon these groups not as different types of proximal cavities, but as the same cavity in different stages of development."

Let us leave these just for the moment and turn to the next slides on the penetration of caries through the dentine.

Figure (2) illustrates the rapidity with which the carious lesion travels along the dentinal tubules once the dentino-enamel junction is broken by decay. The dentinal tubules appear to be affected almost to the entire depth even though the break at the junction of the enamel and dentine is indeed very small.

The caries of dentine of a tooth with a vital pulp differs from enamel in that the enamel does not show any evidence of a vital reaction to the advancing micro-organisms, while living dentine reacts with a specific protective

mechanism. Just beneath the cavity in the enamel is a darkened mass of softened dentine; next are visible dentinal tubules, darkened because of the presence of bacteria. Then we have towards the pulp a zone of transparency indicating a disturbance in the metabolism of the dentinal fibres with a precipitate of calcium salts in the tubules.

Figure (3) is a higher magnification of the affected dentine, noting particularly the engorged appearance of the individual dentinal tubules.

These tubules which are invaded by organisms are distinctly different from surrounding non-infected tubules. The bacteria being an acid-producing type, decalcify the walls of the tubules. This decalcified matrix is then destroyed. In some tubules the micro-organisms form colonies which by their growth distend the tubules at the expense of the softened matrix. The tubules then assume a beaded appearance.

Figure (4) illustrates the affected dental tubules and the large



Figure 2.

area of secondary dentine deposited within the pulp chamber.

The formation of secondary dentine is a reaction of great efficiency and highest practical importance, because by this process a sufficient thickness of hard substance is maintained between the tooth surface and the pulp. It is more dense than primary dentine, containing less organic material.

Immediately following injury to the protoplasmic processes of the dentine, a "barrier" of calcium salts is deposited over the central openings of every injured tubule. Upon this barrier a secondary dentine is formed. The tubules in the primary and secondary dentine are thus completely separated by a highly calcified obstruction and the primary dentine is cut off from the pulp.

Now from these slides it is observed that there is undoubtedly a tremendous reaction in the dentine and in the pulp to compensate for the even very small area of caries, once it has broken through the dentino-enamel junction.

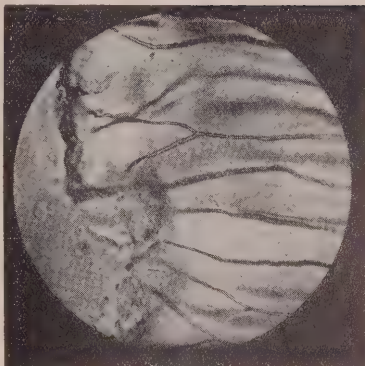


Figure 3.

DOCTOR FISH

THOSE of you who had the opportunity of hearing Dr. E. W. Fish of England at the British-Canadian-Ontario Dental Association Meeting in August, 1932, will possibly recall some of his observations in regard to the pathology of the dentine and pulp. He pointed out that the formation of secondary dentine acted as a *seal* between the carious lesion of the dentine and the pulp. This, of course, can only be considered as a temporary expedient on the part of nature to wall off or protect the pulp, and in cases when the secondary dentine fails to form there is immediately set up a very definite inflammation with its resultant pain and pulpal infection.

NOW, surely gentlemen, this is sufficient evidence that we are guilty of neglect if we allow these small proximal cavities to progress to a point beyond the dentin-enamel junction, with the possible danger of pulpal infection. Therefore I do not see how, if we are to do a complete bit of operative work for any intelligent patient, we can take the chance of

not at least warning the patient of what may happen, and then, if they do not wish to subscribe to the use of "bite-wing" X-ray, we have at least relieved ourselves of our responsibility.

WHEN FILL

MY NEXT thought follows in sequence of the previous observations, that of—At what time



Figure 4.

should these proximal cavities be filled; and what methods shall we employ?

From the slides which you have seen I think you can all very hastily make your own conclusions as to the time these proximal cavities should be taken care of. There is no doubt that as soon as the decalcified process of the enamel has reached its entire depth, or even before, something should be done to prevent its further development.

Now to discuss the method of treatment of these proximal cavities. I am going to mention three different methods, and I leave it to you men to accept or reject as you wish.

Method No. 1.

A proximal occlusal filling of either gold or silver amalgam with due consideration to all the principles of cavity preparation, particularly extension for prevention. To me it seems this is the only type of filling once a cavity has gained access to the dentine of any considerable depth.

Figure (5).

Method No. 2.

The Kellogg Method (2) as described by Dr. Kellogg, of Louisville, Ky.

For those cavities showing a nick in the enamel on the proximal surface—using a very fine round bur we sink a hole from the occlusal surface into the dentine, near the junction of the enamel and dentine, and alongside the carious enamel nick. This is followed by a slightly larger bur, and finally finish with a plain fissure bur about the size of a 20-gauge wire. Keeping the area absolutely dry, a pure gold wire about 20-gauge is fitted into the hole, and cut just a trifle long. Pack two or three very small crystals of silver nitrate into the hole or well, and mallet the wire to place. Now on the proximal surface place a drop of ammoniacal silver nitrate and run a ligature back and forth through the contact point to make sure the silver nitrate reaches the nick in the enamel. Precipitate this by a solution of formaldehyde.

Figure (6).

If the Kellogg method is attempted and you find that the caries has already entered well into the dentine, it is still not too late to change the cavity preparation into a proximal-occlusal restora-



Figure 5

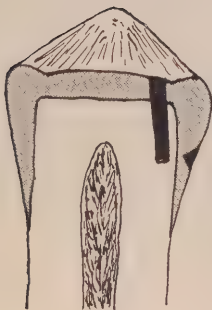


Figure 6



Figure 7

tion. It has been suggested by others that instead of using the pure gold wire we might use amalgam, or gold foil, which seems quite logical.

Method No. 3.

This is a method suggested by Dr. Norman L. Kettlewell, of Chicago.

This treatment is for cavities on the proximal surface of bicusps and molars where there is a nick in the enamel surface.

An opening is made from the occlusal surface something like the Kellogg method but entering further from the marginal ridge and traveling diagonally to the carious area on the proximal surface and extending clear through the surface. Thus after all necessary excavation there is an opening on the occlusal surface running clear through to the proximal surface. A matrix is adjusted over the opening on the proximal surface, the channel or hole sterilized with phenol or silver nitrate, or whatever you wish, and the cavity filled with amalgam.

Figure (7).

I have used both of these methods on selected cases and so far they have been quite satisfactory, but I must admit that sufficient time has not elapsed to justly determine its real value.

However, in all of these methods which I have mentioned and for which I claim no originality, the question of when and where not to use is yours to decide. So much depends upon the age of the patient, the personal history, the family history, the susceptibility or immunity to caries, the oral cleanliness of the mouth in general, and possibly a dozen more factors which make it impossible for anyone to state definitely what particular method should be employed, but with the judgment of you men I know you will use your

own minds and not hold me responsible for its success or failure.

I do think, however, that if one is careful in the use of these two latter methods there is real merit in the suggestions of these two men in their treatment of those small proximal cavities.

Thus far I have mentioned treatment of proximal cavities only. Now just a word or two on gingival cavities on buccal and lingual surfaces. I am referring now to those cavities on the gingival of molars and bicuspid, particularly on the buccal, which we so very frequently find.

I might mention that, in a record of 10,000 cases examined in the dental clinic of Northwestern University in Chicago, only nine cases presented caries beginning on the mesio-buccal or lingual, or disto-buccal or lingual angles of the tooth, and in these nine there was some natural or acquired fault of occlusion. From this observation, then, the extension of the margins

of gingival cavities from the centre of the surface far toward the mesial and distal angles is so necessary that the rule should be to cut them close to the angles in every case, but never past the angle. If this is not done, the susceptibility to caries is almost sure to continue.

The question may be asked — Why extend the cavity preparation of the angles? Because these are the areas of immunity.

Up to this point I have mentioned proximal and gingival cavities with special reference to the posterior teeth. There now remains occlusal cavities only. But when men like Dr. Thaddeus P. Hyatt make the statement that there are 2,500 chances to one that a pit or fissure will decay in twenty years, and when Dr. Charles F. Bodeker claims that 2,400,000,000 bacteria can find lodgment in the average sized fissure, I can only use Dr. Hyatt's words, as to their treatment,—“Please make your own deductions.”

The Problem of Vital Processes in the Human Dental Tissues

By Rudolf Kronfeld, M.D., D.D.S.,
Department of Research,
Chicago College

IN RECENT discussions of dental health problems the question of vital processes in the teeth, and particularly in the enamel, has played an important role. It has been my observation in regard to this question that too much has been taken for granted, that too many assumptions have been made, and that established clinical and experimental facts have not been given sufficient consideration. Therefore I wish to point out briefly some of the fundamentals in dental histology and physiology and to review the results of some recent research on human and animal teeth in health and disease.

The human teeth originate from two different embryonic layers: from the *ectoderm* and from the *mesoderm*. The enamel is derived from the ectoderm; the dentin, cementum, pulp, periodontal membrane, and alveolar bone from the mesoderm. The enamel is closely akin to the other ectodermal appendages in the animal kingdom, such as the hair, nails, scales, and the horn sheath of ox horns, whereas the dentin and cementum are in many respects very similar to the bone and other connective tissue structures.

A comparative study of the development of teeth and of other ectodermal appendages reveals a striking similarity between the two. The ectodermal or epithelial portion of the formative organ for

a tooth or a hair consists essentially of a cup- or bell-shaped group of mesodermal connective papilla. In the formation of a hair the epithelial cells furnish horn (keratin); in the formation of a tooth they furnish the enamel, which consists of a small amount of keratin and a large amount of lime salts. The mesodermal tooth papilla forms the dentin, which is deposited upon the inner surface of the enamel. The dentino-enamel junction, therefore, represents the dividing line between the ectodermal and the entodermal portions of the tooth.

It has been known for a long time that the dentino-enamel junction is not an absolute line of division. Certain structures of mesodermal origin, pertaining to the dentin, pass peripherally beyond the dentino-enamel junction and enter the enamel. The best-known of these are the enamel spindles, which appear as extensions of the dentinal tubules into the enamel. Occasionally dentinal tubules have also been traced for a short distance into the enamel (Boedecker). These extensions from the dentin into the enamel are not constant; they are quite numerous in some teeth, in others entirely missing. They do not extend beyond the inner one-tenth or one-fifth of the enamel thickness.

We come now to the discussion of the most important problem: *To what extent can we consider the*

different dental structures as living tissues, as tissues in which vital processes of different kinds take place? To begin with the innermost dental tissue, the pulp, there is no doubt that the pulp is an organ endowed with a rich vascular and nervous supply, reacting promptly to stimuli and disorders; this is at least true of young pulps. In intact teeth of very old people, however, we have found pulps that have undergone such extensive regressive changes, atrophy, and calcification, and in which the number of cells and vessels is decreased to such an extent that the amount of vital processes that could occur must be infinitely less than in a young pulp.

The vital processes of the dentin are closely associated with the pulp. The dentin contains living structures, namely, the proto-plasmic extensions of the odontoblasts into the dentinal tubules. For the nourishment of these structures there is a stream of tissue fluid and lymph within the dentinal tubules and probably also through the dentin between the tubules. This lymph stream in the dentin has been demonstrated experimentally by Fish in the teeth of dogs and monkeys: solid methyl blue when introduced directly into the pulp could be traced later along the dentinal tubules as far as the terminal branches of the tubules at the dentino-enamel junction.

With advancing age the condition of the dentin undergoes marked changes. Beust has shown that throughout life a gradually increasing number of dentinal tubules becomes obliterated by calcification. Thus large areas of the dentin become sclerosed and impermeable. This physiologic age change in the dentin is in accordance with the above-mentioned progressive fibrosis, calcification, and atrophy of the pulp tissue. Clinically it is manifested by a marked

decrease in the sensitiveness of the dentin with advancing age.

The cementum, which is structurally very closely related to the bone, *contains living cells in the younger*, more superficial layers of its thicker portions. These cells receive their nourishment from the periodontal membrane through fine canaliculi extending throughout the substance of the cementum. Apparently there is no relation between the dentinal tubules and the cementum, or if there is such a relation it is a negligible factor. This can easily be understood from the fact that the dentin is formed by the pulp from the dentino-cemental junction inward, and the cementum by the periodontal membrane from the dentino-cemental junction outward. The two structures are quite independent of each other; it is well known that the cementum continues to live and to function after the loss of the pulp.

As far as the enamel is concerned, the problem of vital processes is much more difficult. As long as the tooth germ is lying within the jaw and the enamel is being formed, substances may be incorporated into the developing enamel or it may be influenced by systemic factors. But as soon as the tooth is erupted, the enamel has lost its connection with the formative tissue and apparently has only a mechanical function in mastication and a protective function to the underlying softer, mesodermic portion of the tooth. Enamel in this respect is comparable to the outgrown portion of a fingernail or to the hoof of a horse, which has lost its vital connection with the body and serves only a mechanical and protective purpose.

The presence of a small amount of organic material in the enamel has frequently been quoted as an argument in favor of vital processes in the enamel. But we have to consider that the organic sub-

stance is keratin, which in itself is perhaps the least vital of all organic tissues. Keratin is nearly always found in layers and types of tissues in which life has practically ceased, such as in the surface layers of the skin, in the hair, nails, and in horns of animals. The presence of keratin does not necessarily indicate the presence of life; it may merely represent the final, lifeless phase in the process of maturation of an ectodermal tissue. Fish suggests that "organic material of a non-vital nature exists in human enamel."

Clinical and experimental evidence speak very much against the presence of vital processes in the human enamel. While it is possible, as demonstrated by Fish, occasionally to observe a vital passage of dye from the dentin into the enamel of dogs' teeth, no similar results have thus far been obtained in the teeth of monkeys or man. Since the enamel of dogs' teeth is distinctly different structurally from human enamel, this would indicate that although young dog's enamel has some permeability to lymph, no such permeability is present in the teeth of man.

A few words must be said about the *interpretation of staining experiments in the enamel.* The fact that a tissue can be stained after it is dead does not necessarily indicate that there has been any life in it. Human hair or human fingernails can very easily be stained, either while they are still in place or after they have been detached from the body. In the same way enamel can be stained artificially, either with aniline dyes or metal salts; the dark discoloration of enamel at the periphery of old amalgam fillings is known to every dentist. But these stains or discolorations are merely the result of physical and chemical processes (chemical affinity and diffusion) and must not be paralleled with vital processes, such as the

lymph stream in the living dentin.

Fish, of London, who during the past ten years has been working persistently on the biology of the dental tissues, arrives at the following conclusion concerning human enamel: "Human enamel has never in any single instance shown a degree of permeability in any way comparable with that of dog's enamel. At most a small wisp of blue was seen to penetrate the enamel from the dentine, coloring an enamel tuft. . . Similarly negative results have been obtained with a large number of monkey's teeth. It was found impossible to cause dye to enter the enamel either from the mouth or from the dentine. . . Human enamel is, for the most part, impermeable to fluids reaching it by simple diffusion either from the dentine or from the mouth."*

The practical conclusion from concept of the enamel as a *dead and practically impermeable structure* is that up to the present time there is no justification whatsoever to assume that any post-eruptive changes in the enamel of a human tooth may be due to "inner" or "metabolic" processes within the tooth itself. There has never been a demonstration proving even the possibility of the enamel's of an erupted human tooth being influenced from the pulp through the dentin. All phenomena that take place in the enamel, such as caries or erosion, must then be due to *environmental* influences, saliva, bacteria, or other factors within the oral cavity. We can not assume that circulatory processes in the enamel have anything to do with resistance or susceptibility to caries, unless such circulatory processes in human teeth are first act-

*Fish, E. Wilfred: *An Experimental Investigation of Enamel, Dentine, and the Dental Pulp.* London: John Bale, Sons & Danielsson, Ltd., 1932.

ually demonstrated by suitable experiments, preferably by vital staining from the pulp outward.

Finally, we have to discuss the problem of "*decalcification*" of or "*calcium withdrawal*" from the teeth, which is sometimes mentioned in connection with pregnancy and certain systemic conditions. Here, too, scientific experiments tend to disprove a common and popular notion. As far as the enamel is concerned, it is obvious that so complicated a process as decalcification can not possibly occur in a tissue that is void of any demonstrable living connection with the circulatory system of the body. A *reduction in the calcium content has never even been demonstrated in the dentin*, which can be considered a living tissue. Fish, who made a chemical analysis of the dentin of human teeth of different ages, found that normally the calcium content of the human dentin increased slowly with advancing age; on the average, the calcium content of the same tooth group (bicuspid) from old individuals was 4.3 per cent. higher than in the same teeth at the time of eruption. This indicates that there is some metabolic change in the dentin; namely, a slow addition of calcium salts. The reverse process, however—a withdrawal of calcium from the dentin after eruption—could not be demonstrated; by no experimental arrangement could the calcium content of the dentin be decreased. To quote Fish again: "It has not been found possible to modify the calcium content of the dentine either by parathyroidectomy, calcium-deficient diet, pregnancy, or feeling on therapeutic or excessive doses of vitamin D; nor

did two dogs with extreme natural softening of the bones show any loss of calcium from the dentine. It appears, therefore, that the calcium content of the dentine is extremely stable, that slight physiological additions may be made to it, *but that there is no evidence as yet of any definite loss of calcium from the dentine under any circumstances.*" (Italic by Ref.)

In view of these results, a warning should again be given against hasty conclusions in the interpretation of sudden and rapid caries in pregnancy or other systemic conditions. We cannot simply disregard the fact that nobody has thus far been able to demonstrate any vital processes in human enamel or to produce decalcification of any dental hard tissue. *There is no justification for an assumption that teeth may become "decalcified"* because of a calcium deficiency in the body or of any other disturbance. If teeth decay rapidly, if they develop erosions or other enamel defects, the cause must be searched for somewhere in the *environment* of the tooth, perhaps in the saliva. The human saliva shows marked individual variations, and although their significance is as yet not fully understood, still they suggest that the biologically inert enamel is surrounded by an active and variable environment. For this reason studies of the chemistry of saliva, such as those reported by Fosdick and Hansen at the recent Midwinter Meeting of the Chicago Dental Society, seem to hold more promise than speculations on an enamel circulation, which has never been demonstrated despite numerous attempts.

The First Clinic to Look After Teeth

Dr. J. G. Adams, Toronto, Canada,
the World's First Dental
Philanthropist



NINETY-FIVE years ago the world's first dental philanthropist was born at Adamsville (now Acton), Ontario. He was the late Dr. J. G. Adams, L.D.S.

It was the late Dr. Adams' work among the poorer classes in Toronto, especially school children, which gave Toronto world leadership in free dental work. His great ambition was achieved when the provincial department of health of the Ross Government began periodic inspection and free dental work in the schools of Ontario. This later led to a Dominion-wide twice yearly survey of pupils' teeth.

Convinced that a great deal of suffering among the poorer classes could be avoided, much illness prevented, and decaying of teeth stopped at an early stage, Dr. Adams in a modest building on Elm Street started a dental hospital for the preservation of the teeth of the poor. In this little building entirely kept by his own money, Dr. Adams and his son, Dr. E. Herbert Adams who still resides in Toronto, made dental history. It was the

first free clinic of its kind in the world.

Pupils of Elizabeth St. and Victoria St. schools were enticed to visit the clinic for teeth inspection. In a report published later the philanthropic dentist revealed that 95 per cent. of them had teeth decayed to such a stage that their health was materially affected.

Dr. Adams compiled records of all his inspections of the children's teeth. These he included in his books entitled "School Children's Teeth." Of a total of 9,231 pupils examined at 13 Toronto schools 4,649 were found to be suffering from toothache or neuralgia and more than 2,000 pupils, the report shows, were forced at different times to be absent from school because of this.

Dr. Adams met considerable obstacles, the greatest of which was the controversy over taxes. Being a charitable organization the doctor pleaded freedom from taxation for his clinic and on being refused, petitioned city council for a grant. This too met with a shake of the head and on May 12, 1899, the charitably-minded dentist was forced to close his clinic. He justly claimed after 29 years of free dental work he found himself unable to meet \$200 in back taxes.

Nevertheless he felt duly rewarded when on the last day of the clinic existence the children gathered, sang songs, gave recitations and carried out a program in honor of the man who had been such a friend to them.

Establishment of Pre-School Age Dental Clinic

Report of the Committee on the
Co-operation of Medical,
Dental and Nursing
Professions

MR. PRESIDENT and Gentlemen,—During the past year your committee has been principally active in maintaining contact with the various schools in the United States and Canada to clarify and encourage the adoption of its ideas. In view of the anticipated report of the Committee on Survey of the Curriculum, further correspondence with medical and dental faculties as conducted in previous years was not resumed. Several communications have been received from prominent physicians expressing approval of the work of your committee and a desire to co-operate with it.

The following note received from one of them is explanatory of existing conditions and indicates the necessity for further development of this phase of medical dental education:

"I am returning your three articles which I read with a great deal of interest. Your great work in trying to get the medical, nursing and dental professions to play ball together is just the sort of thing we need, and it is due to the complete ignorance on the part of the medical practitioners of the fundamentals of teeth health that so many of our

focal infection diseases are common in these parts.

"All power to you. Again with many thanks for letting me see these."

Your Committee wishes to express its appreciation of the action of the Committee on Survey, in recognizing the importance of pre-school age clinics and their establishment wherever possible for teaching purposes as suggested by this Committee.

In addition to the course outlined last year (see report of American Association Dental Schools, 1933) your attention is directed to the desirability of developing a closer contact with departments of Pediatrics and Child Health Clinics for instruction in Prevention of Children's Diseases, also to a closer co-operative relationship with public health services and the fact that instruction of medical and dental students in combined classes, in all matters relating to public health, will produce a desirable co-operation in practice that does not at present exist.

Respectfully submitted,

FRANK A. DELABARRE,
CHAS. L. DRAIN,
GEORGE KERR THOMSON,
Chairman.

DENTAL SOCIETIES

Dental Regulations of Board of Health

Regulations for the guidance of the Dental Association in doing public health dental work for pre-school age and school age children in the city of Oshawa for 1934, which complies with the suggestions and requirements of the motion passed at the regular meeting of the Board of Health on February 27th, are set out in part in the following. While all the details are not here published, a comprehensive outline of the main clauses will inform the parents of the children how they may co-operate.

The twelve dentists who signified their willingness to co-operate with the Board of Health will each serve one-half day a week for twelve weeks, Monday, Wednesday and Friday being the days set with the hours from 9 a.m. to 12 noon. Should any of these days fall on a holiday, then a special day shall be named. Each dentist shall see at least eight scholars or selected children, and in no case is any work to be done unless the pupil presents the official Public Dental Service card, signed by the nurse, parent, or Medical Officer of Health. All first appointments shall be made by the Public Health Nurse and secondary appointments made by the dentist to whom the case was primarily referred, and the dentist shall notify the Board of Health of completion of such work.

Nurses to do Survey

Because of present urgent conditions and until such time as the Board of Health may decide differently, the survey of work necessary to be done shall be left in the hands

of the Public Health nursing staff, subject to any necessary arrangement for the carrying out of the work, approved by the dental executive and the public health dentists.

No crown or bridge work shall be done or no gold fillings put in, except some special arrangement has been made whereby the work may be paid for in a way acceptable to the local Board of Health and to the dentist concerned. In cases requiring a general anaesthetic and where gas is not given by the dentist and a medical practitioner has to be called in, it is required that the parents of the child pay for such anaesthetic. Emergency toothaches or special conditions occurring or requiring attention during the afternoon of any school dentist's day shall require that dentist to assume them. It is suggested and hoped that all public health dental services will be carried out entirely during the prescribed morning hours.

Summer Round-up

For the summer round-up a few additional regulations are mentioned, the days and hours to be the same as school attendance months. The public health nurses are to be on the lookout for all dental troubles in children in attendance at welfare clinics, pre-school age and others that may be brought to their attention, and as many as possible of these selected children shall be sent to the public health dentists on their allotted days.

The work schedule for each district is to be arranged between the dentists and the public health nurse of each school, under the direction of the senior public

health nurse. It is desired, if possible, that all children on the list should be inspected and have treatment before September 1st.

To Save Permanent Teeth

The first consideration will be the endeavor to save the permanent teeth of children found in absolute and immediate need of dental care for permanent teeth. The next treatment work shall be as many as possible of the pre-school-age children about to enter the primary classes and kindergarten classes, and treatment completed as soon as possible following the opening of the school term in September, if such inspection and treatment be not already completed during the summer round-up. Provisions are being made for all other school children following the treatment of the younger boys and girls during the holiday season, and emergency work is to be arranged for regardless of schedule, as soon as the cases are brought to the attention of public health nurse.

—●—

Chew With Times, is Advice on New Model False Teeth

Dentures (or false teeth, if you don't want to be technical) get out-of-date just like clothes and motor cars, according to Dr. Walter Chapelle, of Buffalo, who recently opened a two-day lecture course to the Toronto Academy of Dentistry.

"If you're trying to chew 1934 beefsteak with 1928 dentures," the authority said, "you are just six years and four fittings out-of-date."

He also explained that one of the reasons why people complained of their dentures, and of getting seeds behind their plates when the berry season opened, was that they might have been chewing in the wrong frame of mind.

"A great deal of the problem in getting dentures properly fitted is in the patient's mental attitude,"

he explained. "He has to learn to bite correctly and to give his new teeth a chance."

The doctor explained that what made dentures outdated was that the gums and mouth shrank almost continuously after the natural teeth had been extracted, the amount of shrinkage varying, so that while some needed a new fitting after only one month, others could go for three years without having a new "base" or foundation cast to fit the diminished mouth.

He explains further that while some people were so easy to fit that you could "stand off and throw a denture into their mouths and have it fit," others required long and laborious fitting. "But you can't get dentures at a bargain counter," he insisted.

Dr. E. A. Grant, president of the academy and chairman of the meeting, stated that one of its prime purposes was to learn from Dr. Chapelle simplified methods of technique in making dentures that would allow reduction in cost, particularly in view of the academy's effort to arrange with the city a free dental service to indigents.

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British Columbia Dental Association

The annual meeting of the British Columbia Dental Association was held at the Vancouver Hotel, Vancouver, on February 3rd. The following officers were elected: President, Dr. J. Frank Hill; President Elect, Dr. E. Fraser Allen; Treasurer, Dr. R. L. Pallen; Secretary, Dr. Harold M. Cline. Board of Censors—Dr. J. Gansner, Nelson, B.C.; Dr. Allan Fraser, Victoria; Dr. Ralph Hall, Vancouver.

Dr. William J. Bruce was elected as delegate to the Pacific Coast Dental Conference, as well as chairman of the Legislative Committee;

Dr. R. L. Pallen, Chairman of the Committee on Public Relations.

The Report of Progress re Dental Clinic for Indigent Children was submitted by the Acting Secretary for the Local Committee, Dr. Harold Cline.

Children were cared for through a fund created by contributions from the Department of Health, Province of British Columbia, the Canadian Hygiene Council and the British Columbia Dental Association of \$250.00 each. By this fund 219 children were cared for in the outlying districts. The dentist in charge received \$15.00 for each full day, as well as traveling and living expenses. The dentist supplied all materials.

The method of reaching the patients has been through the Women's Institute, which has branches throughout British Columbia.

The following excerpts will indicate the value of these clinics:

"The clinic is a God-send to these people, for most of the mouths are in a terribly neglected state. It is to be hoped that the work may be continued this year."

"How some of these children have suffered you can well imagine, but I think they will have a pleasant and a painless winter."

The guest speaker for the evening was Mr. A. M. Manson, K.C., M.L.A. His subject was "Youth". He showed the deplorable state that the minds of "Youth" have come to, due to the present conditions, and offered a solution in part by means of the development of the natural resources of the province, through government agencies, in order to divert their efforts to useful channels.

It is a pleasure to report that one of our members of the dental profession has been selected to the Cabinet of the Pattullo Govern-

ment, in the person of the Hon. K. C. MacDonald, Minister of Agriculture.

Dr. MacDonald has practised dentistry for many years in Vernon. His hobby is the practical application of agriculture.

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Vancouver Dental Society

The regular monthly meeting of the Vancouver Dental Society was held in the Vancouver Hotel on March 6th, President William Miller occupying the chair. After the reading of the minutes, in tribute to our late members, Drs. Larry Gilroy and C. H. Gatewood, the members stood in silence for a few moments while the following was read by the president:

"The Chair and bench stand idle in the Gloom,

For he who labored here this life hath fled,

Where care and strife give way to perfect peace

And Labor is for love and not for bread.

"The shifting sands of time soon conceal

Where faithfully he toiled unto the end,

But, one abiding place his name shall have,

The hearts of those who counted him a friend."

Miss White, President of the Dental Nurses' Association, spoke briefly regarding the nurses' organization and their problems and asked the support of the society.

The program of the evening was under the Oral Surgery Group, Dr. Leslie Marshall, chairman. Four papers were presented: "Anaesthetics", by Dr. S. Baxter; "Pre-Operative Considerations", by Dr. Murray McDougall; "Surgical Procedure", by Dr. E. E. Martin, and

"General Problems", by H. E. Simmons. Dr. J. Milton Jones very ably discussed the papers in his characteristic, practical manner. The largest attendance of the year was present and were well repaid, as shown by the reception of the papers and the discussion.



Toronto Association

The sixth annual dinner of the Toronto Dental Assistants' Association was held on Monday, March 5th, at the Royal York Hotel, with the President, Miss J. Brown, presiding.

We were fortunate in securing as our guest speaker for the evening, the Baroness de Hueck, who spoke to us about her social service work in the city.

Other invited guests present were Dr. F. G. Conboy, Dr. A. E. Grant, Dr. Martha Law and Dr. T. Cowling.

The artists contributing to the program were Miss D. Welch, soloist; Miss E. Bowden, elocutionist, and Mrs. Bartmann, accompanist. Marguerite McDowell, Corresponding Secretary.



Officers of the Academy of Dentistry Elected

Dr. Frank Martin was elected President of the Academy of Dentistry, Toronto, at its annual meeting in the Royal York Hotel.

Other officers elected were: Secretary, Dr. Stuart Crouch; Treasurer, Dr. Willard Armstrong; Councillor for District Three, Dr. Frank Cole; District Four, Dr. M. L. Laidlaw; District Five, Dr. K. R. Harris. In the vote for Councillor for District Two, three nominees tied with the same number of votes. Another election for this district was called.



DR. W. G. FOSTER

Elected President at the annual meeting of the Hamilton Dental Society at the Connaught Hotel, March 17, 1934.



The American Academy of Periodontology

The twenty-first annual meeting of the American Academy of Periodontology will be held at the Minnesota Club, Saint Paul, Minnesota, on August 2, 3 and 4, 1934. Members of organized dentistry, interested in Periodontia, are invited to attend this program of scientific papers and clinics. Hotel headquarters are the St. Paul and Lowry hotels. M. M. Bettman, President, Portland, Oregon; Clayton H. Gracey, Secretary, 966 Fisher Bldg., Detroit.

London Association

The regular monthly meeting of the London Dental Assistants' Association was held on Wednesday, March 15th, 1934, in the office of Dr. W. Y. Hayden, with the President, Miss Loretta McCaughey, in the chair.

The speaker of the evening, Rev. R. J. Bowen, gave a very delightful and educational talk on "Rambling Through Alaska", which was greatly enjoyed by all present. Ruth Collinson, Secretary.



Dental Nurses

Dental Nurses' Alumnae Association met in the Nurses' Apartments, Faculty of Dentistry. Vice-President Mrs. K. E. Greenwood conducted the meeting. Dr. Frank Wood gave an illustrated address on "Art as a Hobby".



Emergent Dental Treatment for People on Relief in Ontario

Responsibility of providing for the dental needs of indigents rests primarily upon the municipalities. Nevertheless, in view of the fact that there are a very large number of people requiring relief, the Ontario Government has decided to assist municipalities by appropriating three thousand dollars per month to be spent in providing emergent dental treatment in the form of the extraction of teeth that are aching and those that are so sore as to make impossible the mastication of food. Provision has also been made for the repair of dentures. Extensive extractions, fillings and replacements are not within the scope of this plan, but this effort does not remove from municipalities or voluntary agencies the privilege of providing treatment of this kind, should they desire to do so.

Plan

Dental treatment under this plan

is confined to people actually on relief.

The service is of an emergent nature for people whose need is urgent and immediate, and will include *only*—

(a) Extractions.

(b) Repair of dentures when urgently needed for purposes of mastication.

The following nominal fees will be paid the dentist for this work:

General anaesthetic	\$2.00
Each tooth extracted under the general anaesthetic . . .	.50
Local anaesthetic and the extraction of one tooth	1.00
Each additional tooth	.50
Repairing dentures	1.00

People on relief having aching or sore teeth or a broken artificial denture, and desiring the assistance provided by this plan, will appeal to the relief office where they are registered and will be given, by the proper relief officer, a voucher which will permit them to go to the dentist of their choice, whether within the relief district or not, for the treatment outlined above. In case the patient has no choice, the relief officer will refer patients to the dentists of the district in turn.

The account, on the prescribed form, with the order of the relief officer attached, must be sent not later than one week after the performance of the service, to Dr. F. J. Conboy, Secretary of the Dental Advisory Committee, for approval by the Committee. On approval, certified by the Chairman and Secretary, such accounts will be forwarded for audit and payment. Dentist should not expect payment until at least a month after the account is submitted.

Dentists having special cases presenting problems not clearly provided for, are advised to write to the Secretary of the Dental Advisory Committee for the con-

sideration and ruling of the Committee.

To insure that the plan will be carried out as intended, relief officers will be advised when patients in their areas may be referred for treatment, and no dentist is authorized to give service under this plan until the local relief officer has been so notified and has given a written order for the work to be done.

For further information, communicate with Dr. F. J. Conboy, East Block, Parliament Buildings, Toronto, who has been appointed Executive Secretary of the Dental Advisory Committee in carrying out this plan.

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Jobless Benefit at Dental Clinic in Saskatchewan

Local dentists had a field day Wednesday in a successful clinic at the City Hospital. A dozen relief recipients and other private patients of city dentists provided the material to work upon.

The clinic was conducted by Dr. Roy West, D.D.S., of Seattle, representative of the Novol Chemical Company, makers of dental anaesthetics and medicines. All the extractions were done under local anaesthesia by nerve blocking. Twenty-five dentists attended the clinic staged by the Saskatoon Dental Society. Arrangements were made by Dr. F. G. Salisbury, President.

Some of the patients had 10 and 12 teeth extracted; others presented single troublesome molars. A few of them had pus sacks on the roots large enough to surprise most of the dentists.

Extractions went ahead steadily from 2 until 6.30 o'clock, when a halt was called for dinner in the Japanese Room of the hospital. A table clinic followed, a skull in place of patients being used for demonstration purposes.

City Dentists Are Co-operating With Work Among the School Children in Woodstock

The establishment of a dental clinic for work among the school children whose parents are not financially in a position to look after their teeth will be undertaken at once it was decided at the weekly luncheon of the Woodstock Rotary Club at the Carlisle Hotel at noon Monday. The club had originally intended to sponsor the establishment of a Victorian Order nurse here and had enlisted the co-operation of several other organizations, but the project fell through when they were unable to secure a grant from the town council. The club then decided to secure the Dental Clinic with the co-operation of the local dentists.

The clinic will be located in the Fisher Memorial School, and will be completely equipped. Each of the town dentists is giving two mornings a month. The dentists will also make regular inspections of the school children's teeth.

It is expected that the clinic will begin to function about the first of April. Rev. W. L. Moore was in the chair at the meeting.

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A Dental Clinic is being established at Queen Mary School, Cannon Street, Hamilton.

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Dr. George C. MacKay recently described his connection with putting the Kaiser and superior officers to flight in the Spring of 1918 at Zeebrugge.

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The Ladies' Auxiliary of the Academy of Dentistry were entertained at a tea at the home of Mrs. Ernest C. Veitch, Toronto, on March 22nd.

Ontario and Durham Counties' Officers Elected

The new officers elected were: Past President, Dr. G. M. Trewin, Oshawa; President, Dr. G. C. Bonnycastle, Bowmanville; Vice-President, Dr. Fred Drewry, Cobourg; Secretary-Treasurer, Dr. S. J. Phillips, Oshawa; Auditors, Dr. H. M. Cook, Oshawa, and Dr. H. Hudson, Whitby.

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The shield donated by Dr. E. Grant, Director of Dental Services for Toronto, was won by Senior III. grade of Winchester Street School.

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Kent Association

The last meeting for the season of the Kent County Dental Association was held in the William Pitt Hotel, Chatham, on Wednesday, March 28th.

Dr. Frank Cole, of Toronto, was the clinician and his subject, "Fish Technique for Lower Dentures", proved to be very helpful to the members.

Election of officers for the year 1934-1935 resulted as follows: President, Dr. G. K. Mills, Tilbury; Vice-President, Dr. D. L. Kinzie, Chatham; Sec.-Treasurer, Dr. C. E. Higley, Chatham (re-elected). Councillors—Dr. R. C. McCutcheon, Highgate; Dr. H. G. French, Dresden.

Study groups are to be formed during the Summer months, and clinics given by our own members when meetings are resumed in the Fall. C. E. Higley, Secretary-Treasurer.

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A dental clinic for good work among school children was started around the first of April, at Woodstock, N.B.

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Mr. A. Dorais, principal of the Victor Rousselot School in Mont-

real, presided at a meeting of dentists last month. Among the guests of honor were Dr. A. Groulx, Director of the Children's Hygiene Service, and Dr. J. Nolin, President of the Hygiene Committee of the Catholic Schools, and Dr. R. R. Lalonde from the Bureau of Health.

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Tooth Cleanliness Has Little to Do With Tooth Decay

Tooth decay has little to do with tooth cleanliness or the lack of it, according to the British Medical Research Council, which has been digging deep into the subject. What makes children's teeth decay is not enough sunshine, too high a percentage of cereal foods, not enough meat, eggs, milk, cheese, fats and fresh vegetables in the diet, these medical men say. The whitest and soundest teeth are found among savage and half civilized peoples who live largely out-of-doors and eat whatever they can find that is edible. In our boyhood tooth-brushes were just beginning to come into general use and not more than one or two dentifrices were advertised. Many folks never brushed their teeth at all, yet the human race had survived for a good many thousand, perhaps millions, of years. Clean, white teeth are desirable, but apparently there is nothing to worry about if one doesn't have them. Nevertheless we advise you to see your dentist regularly.

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It has been proposed to make Casa Loma, Sir Henry Pellatt's original home, into a health centre, housing the following organizations: Academy of Medicine, the Canadian Medical Association, the Ontario College of Physicians and Surgeons, dental and nursing societies, Ontario Hospital Association, Red Cross and social and mental hygiene councils.

Correspondence

Feb. 1, 1934.

Editor, Dominion Dental Journal:

Dear Doctor:—

By an editorial in the *Dental Digest*, I see Sir Arthur News-holme and John Adams Kingsbury are the authors of a book called "Red Medicine" in Russia.

Some of the outstanding features might be of use to us in Canada if we can get over our hide-bound conceptions of conservatism.

There is one thing certain and that is that the present conditions of practice cannot last if the depression is extended many years.

Here are some of the features: Medical and dental care are on the same basis. Service is state paid, and given in clinics, hospitals and dispensaries. They are excellent in large centres, and poor in outside places, but this can easily be corrected by sending workers to the outside places.

Physicians, dentists and nurses work six to six and a half hours a day. Annual vacation two weeks, every fifth day a holiday.

Less than ten per cent. of practice is private, and most of this by older practitioners. Some places the patients have a choice of who shall serve them.

Age, sex or previous education does not stop a person going to college, and tuition is free and students are paid.

There are thirty-four colleges and 106 research institutions.

We could do with a few of those clinics, short hours and research institutes. It would also be fine to be rid of collections, cost of supplies and the care of equipment and instruments and stocks of this and that in connection with a dental practice, as well as wear and tear and depreciation and insurance.

I like that regular income with no bad debts, and the possibility of transfer to any section of the country. Say, tell me is it Russia that is backward, or by Jove, by heck, is it us?

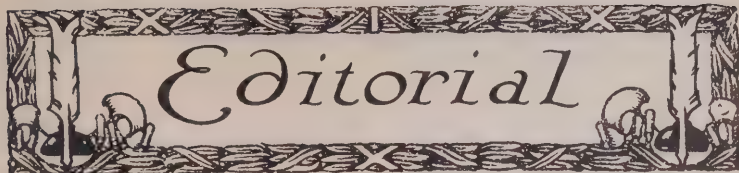
Yours truly,

I. WONDER.

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Important Facts to be Remembered in Treatment of Fissure and Pits

1. The acidity of the saliva is never sufficiently strong to cause decay of the teeth. (G. V. Black).
2. Decay does not start from within the tooth and work outward. (G. V. Black).
3. Undisturbed retention of food débris creates a condition favorable to caries development. (Arthur; Bodecker).
4. For caries to progress in dentine, there must be a cavity. (G. V. Black).
5. There is a distinct difference between the progress of decay on smooth surfaces and decay in enamel defects. (Bodecker).
6. The structure of the tooth governs the rate of progress of decay but does not affect the liability of decay. (Bunting).
7. Slight caries in dentine can cause pulp changes.
8. Dentine in newly erupted teeth is more susceptible to acid of decay than later in life.
9. The bacterial plague is the active factor in the production of caries.
10. Any defect in enamel which permits retention of the active factor, is a constant menace to the integrity of the tooth.



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A Great Relief

FOR a number of years the Council of the New Brunswick Dental Association has had to fight private bills in the Legislature the purpose of which was to allow unqualified dentists to practise in that province. Year by year some kind of bill appeared, always with the same purpose, permitting some one to be allowed to practise, without qualification. Judging from the tone of an editorial in the Fredericton Daily Mail there will not be any chance for a change in the Act for some years to come. The last attempt was to give five unqualified dentists certificates to practise. These dentists had been permitted to practise as assistants in the office of a qualified dentist. One of the qualified dentists died, leaving no one to assist and hence no licence to practise.

It would seem that the boards are clear for some time to come which will be a great source of relief to the officers and the profession generally in New Brunswick.

DENTAL NOTES

Career of Stavisky an unsolved mystery. It would appear that for a time his father practised dentistry in Paris. Here it seems to us is the first marvel, that a native of the Ukraine should be able to compete successfully as a dentist with Paris dentists.

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A Bill has been introduced in the Ontario Legislature providing inspectors whose duty will be to look into medical, dental, transportation and other kindred services or penalties or assessments of various kinds against wages.

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Artificial teeth for indigents, discussed at a Hamilton Board of Control meeting on March 15, 1934. Mayor Wilton brought the matter up when he told how he was refusing to approve the account for \$50 for a plate supplied a person on relief.

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At the March meeting of the Regina Dental Association, held Monday evening, Dr. Layng completed his series of talks to the club, again using lantern slides to illustrate. Miss Matheson and Miss Busby were guests from the Moose Jaw Dental Nurses' Association, and after the lecture and business of the evening was finished, those present had supper at the Gray Goose Shack.

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The Ladies' Dental Auxiliary met in the Round Room, Thursday, March 15, 1934. Rev. W. R. Johnson gave a talk on Ireland. Mrs. Frank Martin, accompanied by Mrs. Hugh Kerr, sang.

Dental Office Thieves

Dental office thieves are operating in the district north of Toronto.

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Dentist Not to Blame for Child's Death in Montreal

Since he had taken all the precautions necessary for the work, observed all the rules of elementary prudence and followed the methods of his art and profession, Dr. George E. Seguin, dental surgeon, was not held to blame for the tooth that young Jack Campbell swallowed while undergoing dental treatment and which, lodging in his lung, finally resulted in death. Consequently the action that the boy's father, Charles Alex Campbell, had taken for \$3,340 was dismissed by Mr. Justice Mercier in the Superior Court.

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Balanced Diet, Sugar Low to Stop Decay of Teeth

Dr. R. W. Bunting, professor of oral histology and pathology at the University of Michigan, said a four-year research disclosed that a balanced diet with a minimum of sugar is the main factor in prevention of tooth decay.

Dr. Bunting, who directed the research, gave a preliminary report of the investigation before the International Association for Dental Research.

"We might sum up results," he said, "by saying that if children are fed an adequate, well-balanced diet, low on sugar, they will have little decay.

White Teeth a Myth

THE popular conception that pearl white teeth are beautiful was knocked into a cocked hat recently by Dr. Arthur S. Watts, of the department of Ceramics, Ohio State University, in a speech before the American Ceramic Society.

"A white tooth, in reality," he said, "would be more conspicuous than a gold tooth, and would be so completely out of harmony with the other teeth in a person's mouth that its insertion would bring ridicule on the entire dental profession."

Dr. Watts asserted that scores of tints of colors appear in the average person's teeth. Artificial teeth, made to match natural teeth, "must be tinted with various shades of red, yellow, blue, green, brown and black."

If a person wants an exact reproduction of a missing tooth he can have it made, providing he has the money and the missing tooth, Dr. Watts said. He related an incident of one man who collected all the dust for yards around the scene of an automobile accident to have it screened and find the teeth that had been knocked out in the collision. A perfect match was possible after the lost teeth were found.

Association of American Women Dentists

The thirteenth annual meeting of the Association of American Women Dentists will be held at the St. Paul Hotel, St. Paul, Minn., on August 6, 1934. A cordial invitation is extended to all Canadian women dentists attending the American Dental Association Convention.—Geneva E. Groth, Chairman Publicity Committee, 1301 Medical Arts Bldg., Phila., Pa.



DR. W. W. WOODBURY

President of the Halifax Dental Society, Chairman of the Board of Governors of the Halifax School for the Blind, and member of the faculty of the Dalhousie Dental School, who addressed the Dalhousie Dental Society at a meeting held in the Munro room of the Forrest Building, giving some ideas on what the dentist should read.

Haste to Reach Dentist Causes Pastor's Death

Iroquois, March 14 (Special)—After hurrying to keep an appointment with Dr. W. J. Armstrong, dentist, Rev. Arthur Wilson, pastor of the United Church at Brinston, Ont., collapsed about two minutes after getting in the chair. Shortly after medical aid arrived he died.

Mr. Wilson was in his 50th year and last June started his third term in his present charge. For some weeks he had not been in good health and on Sunday was not able to take the evening service.

There are three children, Dorothy, Ruth and Gordon, all attending high school at Iroquois.

OBITUARY

The Death of Lt. Colonel William Joseph Bentley, O.B.E., V.D.

Lt.-Colonel William Joseph Bentley, O.B.E., V.D., widely known dentist, died at his home at the age of 63 years. Colonel Bentley, who had been a practising dentist in Sarnia for over 30 years, had been ill since he had a stroke last September. At the close of the war he was Director of Dental Services in the Canadian overseas forces.

Born in Warwick

Born in Warwick Township near the village of Warwick, the son of John Bentley and Julia Rogers, Colonel Bentley received his early education in the schools of the township and from there went to the Royal College of Dental Surgeons in Toronto. Returning to Sarnia after graduation he assumed practice, which, but for the time he spent overseas during the war, he continued until his retirement last year.

He was honorary president of the Lambton County Dental Association, having been elected to that position last year. Besides his notable civil record, Colonel Bentley had an outstanding military record. At the coronation of King Edward, he was a member of the official Canadian military delegation present at the colorful ceremony. His rank at that time was corporal. A few days after the outbreak of the World War he joined the Canadian Expeditionary Forces with the rank of captain. Serving for over three years with the forces, in the concluding year of the war, he was appointed Director of Dental Services for the Canadian army. For

his services during the war he was awarded the Order of the British Empire. At the time of his death he was senior officer of the Canadian Army Dental Corps. At the annual inspection of the Lambton Regiment two years ago, he was presented with the Victorian Decoration by General Armstrong, D.O.C. The V.D. is awarded to officers for long service in the Canadian Army.

Was a Mason

He was a life member and past master of Victoria Lodge, A.F. and A.M., and a member of the Independent Order of Odd Fellows. In 1924, he was married to Helen A. Taylor, daughter of the late Mr. and Mrs. Peter Taylor, of Sarnia. He is survived by his widow and one brother, John R. Bentley, of Cleveland.

The late Colonel Bentley was a man of the type that is beloved by men. The soul of kindness and good humor, he made friends quickly, and he loved children. He never spoke unkindly of others and he had an unusually keen sense of humor. Honored in his profession, he gave freely of his knowledge and ability in the service of his country during the war. His death will be greatly regretted in the city.

The funeral services were held at his residence, 193 Queen Street, on Tuesday afternoon, at 2 o'clock, with full military honors.



Dr. L. E. Gilroy Dies After Brief Illness

Vancouver in particular, and the Pacific Coast and Canada, mourn



UNIFORMITY

IN every operation—in every measurement—in every laboratory test—the password at Pepsodent is *uniformity*. To insure it the contents of each tube of Pepsodent Tooth Paste undergoes 105 separate and distinct

tests. . . . Such laboratory care is one of the reasons Pepsodent is recommended by the profession. The other reason is the formula itself—includes the softest polishing agent of any leading tooth paste.

THE PEPSODENT CO., TORONTO

the death of one of our most beloved friends, Lawrence Edward Gilroy.

Larry passed away in the General Hospital, after a brief illness, on February 11th. Born at Smith's Falls, Ontario, in 1880, he graduated from the Baltimore Dental College, University of Maryland, practised in Spokane, Washington, Grand Forks, Prince Rupert and for the last twenty years in Vancouver, B.C. He held licence to practise in the States of Oklahoma, Texas and Washington.

He has always been a faithful supporter of the Vancouver Dental Society and the British Columbia Dental Association, and was a member of the Prince of Wales Masonic Lodge and of the Quadra Club.

A dentist of rare ability, a gentleman of culture and refinement, he has left precious memories and brought honor to the profession. "To know him was to love him."

Dr. Gilroy is survived by his mother and sister, Miss Stella M. Gilroy, of Smith's Falls, Ont., and Mrs. (Dr.) Dickson, of Detroit.



Allan L. Mass, Young Dentist, Dies Suddenly

A rising young Winnipeg dentist and one who had been meeting with success early in his career, Allan L. Mass, son of Mr. and Mrs. F. Mass, 305 Polson Avenue, died suddenly in his 23rd year. He was a graduate in arts of Manitoba University, and studied dentistry in the University of Minnesota. While at the university he was prominent in dramatics. He was active in the Menorah Society and had a notable part in "The Dybbuk", that of Lessenger, during its presentation by the society in 1930.

Surviving are his parents and a sister, Miss Charlotte Mass, and two brothers, Jack and Barney Mass, all of Winnipeg.

The funeral was held from the home to Shaarey Zedek Cemetery, where burial was made.



Dr. Gumaer Passes Away

Dr. Gumaer dies in Kincardine. Born in London, Ont., prior to choosing the dental profession traveled for a drug firm. It was while in Kincardine in this connection that he decided to come to the town, and a few years later, after graduating from Dental College, carried out this decision.

Three years ago, at the annual meeting of the Ontario Dental Society, Dr. Gumaer was an honored guest, as he marked half a century in the profession on that occasion. He followed his profession ethically and was well known in it.

Dr. Gumaer was conversant with many subjects, and possessed a most retentive memory, by which he was able to recall incidents of many years ago. He also traveled widely, and for many years, with the exception of the past three, made an annual trip in the Winter months. When 75 years of age, he made a tour of the world, on his return warning younger men not to take it as it would be too much for them.

For the past year Dr. Gumaer had been in failing health, and this was aggravated early in the year when he had the misfortune to fall on a slippery street. He was taken to the General Hospital a week ago, passing away Saturday.

He is survived by one daughter, Mrs. McKenzie, Detroit. Mrs. Gumaer passed away several years ago.

ORIGINAL CONTRIBUTIONS

Some Factors of Importance in Building and Retaining a Successful Dental Practice

By George W. Grieve,
D.D.S.

Read Before the
Academy of Dentistry,
Toronto, Ontario.

YOUR Executive has arranged a unique program for the winter activities of this Academy, covering almost every branch of dental science. In planning these special meetings, I do not know just what was in the minds of these men, but I feel that their broad vision impelled them to realize that possibly those who are devoting their entire time to one line of work, and others who are directing their efforts, along with general practice, especially to some particular phase of dental science, might have messages of value to bring to the general practitioner.

Scientific dentistry to-day covers a much wider field than it did even when some of the younger men in the profession graduated, to say nothing of the advancement which has taken place since we older practitioners set out in our life's work — all of us with hope and ambition high. However, there is yet much to learn; there are still problems to solve, and theories which must be proven right or wrong.

Most of us are earnest in our endeavors, and yet may often be misunderstood. Possibly many of us have had patients leave our

practice, and seek another dentist, because of a suspicion in their minds that we have not given them the best possible service. Sometimes they are justified in this assumption, but not always. Specialists, who see the general work of many operators, can all call to mind instances where patients have changed from one dentist to another to the distinct disadvantage of these patients; and again some may, by the change, come under the care of a practitioner who is more skillful, and has a broader vision of the whole dental problem. So it behooves every one of us to be alert to grasp every opportunity to more fully equip ourselves to render the very best service possible.

It is a good thing to "take stock" periodically, to ascertain if we are really capable in all the lines of work which we undertake. Can any one really be highly efficient in every department of a science which is developing so rapidly? Each can easily answer this question for himself. None of us can hold ourselves aloof, away from our confreres, and make progress. We must get together, as we are doing tonight, and obtain the viewpoint

of the other fellows, and find out what they are doing; otherwise we lose the benefit of their endeavors, and have no standard by which to measure our own ability. A dear old friend of mine, who has now passed on to his reward, and who was one of the foremost men in the world in his specialty, once said to me: "George, I never talk with a man from whom I do not learn something."

Each of us should do some research; this can often be done in our own offices, as it is not always necessary to be installed in the midst of elaborate equipment in the way of intricate machines, microscopes, chemicals, experimental animals, etc. We are not all peculiarly endowed with the ability to carry on the highly scientific research which we have brought before us from time to time, but each can do something, and the doing of it adds to his knowledge and capabilities. The average person can do some particular thing better than most of the other fellows, if he works assiduously to this end, but can any one do more skillful work in every branch of dental science than all of his confreres?

Now I have asked a question, the only answer to which, I am sure you will all agree, is NO. Then, should the average general practitioner endeavor to cover the whole field, if he is so situated that it is unnecessary for him to do so; and is it in his own best interests, as well as that of his patients, that he should? Each one can best answer this for himself. Are not most of us especially interested in some particular phase of our work, and possibly more expert in that than in the other operations which we are called upon in general practice to perform? Can we become equally efficient in every department? Which operations do we find the most laborious? Naturally, those which do not particularly appeal to

us. Can the average dentist, then, in all branches of the science, render to his patients the service which they expect, and to which they are entitled? If not, then should he attempt lines of work with which he is not sufficiently familiar to render the best possible service?

SPECIALIZATION.

THE patients whom we desire most to retain in our practice are those who are most appreciative of our efforts in their behalf. They want the best possible restorations, and the most expert treatment of pathological conditions and malformations, and are sufficiently enlightened to realize that this type of work requires greater skill and the expenditure of more time on the part of the operator than does the more careless, hurried, inefficient service. It is surprising, too, how willing these patients are, if necessary, to deny themselves possible luxuries in order to pay a fee commensurate with such service.

Now, can any one present call to mind a patient for whom he attempted the treatment of a bad case of periodontoclasia, or perhaps malocclusion, or the removal of a badly impacted third molar, or possibly the construction of a denture under peculiarly difficult conditions, and failed? Did this patient, and other members of the same family, remain in his practice?

Some practitioners have the idea that our patients expect us to know everything, and that if we tell them that certain lines of work can be done better by the specialist we are lowering ourselves in their estimation. The reverse is true. The man with the broadest knowledge does not hesitate at times to say, "I don't know"; the one with limited ability is afraid to acknowledge that he does not know everything, and tries

to create the impression that he is highly efficient in every branch of dental practice. We have only to explain to our patients that dentistry today is too broad a field for any man to cover it all; they place a higher rating upon our ability if we acknowledge this fact and recommend them to someone else for any special service which we feel requires knowledge and skill which we have not had the opportunity to develop.

A dentist, practising in a district where it is not possible to refer to a specialist certain types of work which he realizes is beyond his knowledge, must learn to measure his own capabilities, and not court failure by endeavoring to treat these cases. Many conscientious practitioners have lost from their practice some of their best families by attempting operations which they were not adequately equipped to perform.

This is not a plea for the specialist; it is an effort to call to the attention of the general practitioner some of the errors which all of us have made in attempting lines of work with which we are not sufficiently familiar to render efficient service. Errors often prove costly, and we cannot afford to take the chance of losing the confidence which our patients have placed in us, if we are going to succeed in building up a good practice, and retaining it. Skillful service is the most important requisite, but not the only one, and we must not fall short in any factor which enters into the problem.

In these special meetings of the Academy its members have the opportunity of obtaining a more intimate knowledge of the development which is taking place in the various lines of work now established as specialties than would naturally be obtained in the course of general practice.

Tonight it is the Orthodontic

Club which has been called upon to bring before you some phases of orthodontia which may be of interest, and possibly aid the general practitioner in widening his sphere of service to his patients. In this branch of dental science phenomenal development has taken place during the period in which I have been devoting to it my entire time—now over twenty years. Orthodontia is a much more exacting science than any one in general practice can possibly imagine. A number of us have been bold enough to forsake some of the theories and methods of practice which have been in vogue for many years, and as time goes on we are getting closer and closer to a realization of our ideals, although the profession at large does not yet see eye to eye. However, the science is progressing, and the greatest measure of success is crowning the efforts of those who are agreed upon a definite theory of the etiology of malocclusion, are applying that theory in diagnosis, and are exercising skill and precision in properly applying stimulation to Nature to correct the maldevelopment resulting from the changes which are taking place in the human denture chiefly as a result of environmental factors.

As to the *etiology of malocclusion*, everything from heredity to the improper functioning of the gonads have been suggested as contributing factors. Malocclusion, ordinarily, is not hereditary, but heredity is, no doubt, responsible for certain abnormalities. One of our most assiduous students of etiology—Hellman, in speaking of malocclusion of the teeth, has said that "The actual cause of the trouble is not known, but inharmonious growth of the face may be blamed for it." I am inclined to the belief that inharmonious growth of the face is an outstanding symptom rather than a contributing factor

in the production of malocclusion. Dr. J. Sim Wallace, of London, England, in the July number of the *Journal of the American Dental Association*, says: "If we can explain why deviations from the normal occur, we can claim to have solved the etiologic problem." He further says: "If we could, as it were, re-establish the conditions and environment of our ancestors, as far as food, mastication and correlated functions were concerned, the jaws would develop as they had done in past ages." This was very forcibly brought to our attention at this Academy's opening meeting in October by Dr. Weston A. Price, and is borne out, also, by the finding of Dr. Leuman M. Waugh, in his examination of the mouths of the Eskimo, also mentioned by Dr. Price. I would suggest the study of this paper of Sim Wallace in the *Journal of the A.D.A.*, as it throws considerable light upon some of the theories advanced to solve the etiology of malocclusion, and in which he says: "Through careful and patient investigation, we have arrived at the etiology of the various types of irregularity which will bear comparison with the solution of other biologic problems which are generally accepted as correct by scientists."

ETIOLOGY OF MALOCCLUSION.

IT IS evident that the members of one group, of which Dr. J. Sim Wallace is the most outstanding figure, have arrived at what they consider to be a reasonable and sane solution of the problem, and are agreed upon a definite theory which, when intelligently applied in practice, is producing results far superior to those being obtained by the group who still adhere to the belief that "the actual cause of the trouble is not known,"

and who are endeavoring to have their stimulation to Nature, through orthodontic mechanism, conform to the "inherent tendencies of growth," concerning which inherent tendencies they admit their lack of knowledge. In other words, the Sim Wallace group are directing their treatment in accordance with a definite theory of the etiology of malocclusion, and are accumulating evidence to substantiate the truth of that theory, while the other group are still looking for an elusive something—they know not what—to account for the malformed dentures and distorted faces which we see everywhere.

Now, in this presentation to-night, it is the desire of the Orthodontic Club to give to the general practitioner some points which he can apply in his own practice, whether he cares to undertake any orthodontic treatment or not. To obtain the greatest success in general practice the dentist must be a skillful operator, and should have a thorough knowledge of occlusion; he should know the relation which every tooth, and each cusp of every tooth, should bear to those teeth with which it normally occludes. With this knowledge of occlusion, and skill in reparative operations, he is able to so construct fillings, inlays, crowns, bridges, etc., and where necessary judiciously grind occluding surfaces, so that there shall be no traumagenic occlusion. He will realize that teeth which are tipped should be straightened up, if possible, and certainly must not be used for abutments for bridges unless they are placed so that the forces of occlusion are directed upon them at the normal angle. We all know that the mesio-buccal cusp of the maxillary first molars should rest in the buccal groove of the mandibular first molars when the teeth are in occlusion. When we see a denture where this normal relationship does not exist, we know

that at least some of the cogs in the wheels of this most important machine are not meshing properly, and that its efficiency in the vital function which it must perform may be impaired. When one part of an intricate mechanism gets out of order it is liable to wreck the whole machine, and this is what happens in many dentures.

Dr. A. J. McDonagh has said: "Malocclusion can be a very potent factor in creating traumagenic occlusion, which in turn may result in periodontoclasia." Much of the recession of gum margins which we so often see results from teeth having been shoved out of their normal relation to the base. Many pulps die from abnormal occlusal stress; individual teeth often become hopelessly loose and are lost from the same cause, and a whole train of ills may follow as a result of malocclusion. Facial harmony may be more or less marred from the same condition; there are many phases of this problem.

How does this all come about, and what solution have the students of the etiology of malocclusion to offer? As I said before, the members of the orthodontic profession are not, as yet, a unit in their answer to this important question, although I feel that the majority agree, in the main, with the theory that malocclusion is the result of a forward displacement of the teeth. It would seem that environmental changes during the generations are chiefly responsible, and that Nature to-day, in many individuals, is not building a base large enough to carry the full complement of teeth. Missing teeth are now quite a common occurrence, the most frequent being maxillary lateral incisors and mandibular second premolars, although maxillary premolars, mandibular incisors and both maxillary and mandibular third molars are absent in many mouths, and there are on record instances where no

teeth at all developed. This may be an effort on the part of Nature to compensate for this lack of growth.

Most students of biology are pretty well agreed that the horizontal growth of both maxillae and mandible takes place occipitally, and where Nature is unable to provide sufficient room for the developing molars a great many orthodontists believe that the teeth anterior to this area are shoved forward of their normal position upon what has been termed the apical base. This forward drift of the teeth is responsible for the malocclusion which becomes manifest in various ways in so many individuals. Excessive overbite is due to the maxillary anterior teeth having been carried forward to a point where they lose contact with the corresponding teeth in the mandible when the jaws are closed. Under these conditions there is an excessive vertical growth of the alveolar bone in the anterior region, both in mandible and maxillae, carrying the teeth with it.

In some individuals there is a lack of normal forward growth of the mandible itself, and in others an excessive growth of this bone, the latter condition usually being associated with a lack of forward growth of the maxillae. Where the mandible is short, the desired growth can be obtained through skillful stimulation to Nature by means of properly designed appliances. Very little success has resulted from efforts to shorten the mandible, but the forward growth of the maxillae to normal relation with the cranium can be obtained.

The correction of these major cases is beyond the sphere of the general practitioner, and he would be well advised to not attempt them, but he should be able to early detect a developing malocclusion, and not allow these cases to go until the condition becomes a disfigurement

to the patient. When cases of this type are brought to the orthodontist for advice the parents invariably ask the question "should not my dentist have told me about this long ago?" There are some of the minor cases, however, which can be successfully corrected by the dentist if he understands occlusion and has developed sufficient skill in the use of orthodontic appliances; he can also accomplish much along the line of preventive measures if he has gained a good knowledge of diagnosis, which is the most important factor in the solution of the orthodontic problem. We must be able to detect an inharmony in the relation of the dental arches with the cranium. It is our shortcomings in this phase of the subject which has been responsible for much of the failure in orthodontic treatment; just to line up the teeth into a symmetrical curve is not orthodontia, and teeth should never be carried forward in the bone in an endeavor to bring them into normal occlusal relation with teeth in the opposite jaw. Teeth are rarely, if ever, too far distal in the bone in which they are located, and a full recognition of this fact will save many mistakes. My continuous efforts now, in each and every day, are devoted to carrying teeth back—not forward, but it required many years for me to learn to make an intelligent diagnosis, during which time I had many failures and heartaches. Our theories were wrong, and our efforts, therefore, were misdirected.

Dr. Halderson, in his clinic, will show you many points in the technique of making, trimming and properly making casts, which are important factors in arriving at a proper diagnosis.

Where there is much forward drift of the teeth, it is impossible to carry them all back to their normal relation to the apical base, and in these instances some of us now

advise extraction, but these are complicated cases and should not be attempted by anyone unless he has had a wide experience.

The third molar problem is a difficult one, as there are many of these teeth now which become impacted, due to the fact, chiefly, that Nature is not building in many individuals a base large enough to accommodate them. I would like here to make a few suggestions with reference to the taking and reading of X-Rays of these teeth. Some men declare many of them impacted which would erupt if given time. Many of the X-Rays of these regions are absolutely useless as an aid to diagnosis. In obtaining these the focus should be directed between the second and third molars, and at a right angle to the buccal surface. In the mouths of some of the younger patients, particularly, it is impossible to place an intra-oral film far enough back to obtain a proper picture; these should be taken extra-orally; in fact the latter are usually more reliable in all cases.

With reference to the *calcification of third molars*, we all know that many of them present some developmental defects, but is it wise for dentists to sanction the impression which the public seems to be acquiring that "wisdom teeth are no good, anyway?" Some of these much-maligned teeth often render good service as abutments for bridges, and are mightily appreciated when the adjoining two molars are lost.

Now, one humble plea for the orthodontist. Every person realizes that patients wearing orthodontic appliances must necessarily exercise greater care in brushing the teeth, in order to clear away all food particles; but, providing the teeth are kept clean, are they really any more liable to develop caries than other persons of equal susceptibility? We all realize, so far

as is yet known, that the chief factors involved in caries are the dietary habits and the function of mastication. Why, also, will some dentists acquiesce with their patients in another bogey which is at large, viz., that "the bands decay the teeth"? Would we not do our patients a greater service by instructing them along the lines of diet and proper prophylaxis, and thus make the orthodontist's problem in this respect easier?

Just a word about the *abnormal frenum labium*, which some men still cauterise. At one time I did a great number of these operations, but later found that it was unnecessary, and have not done one for many years. If all spaces are closed, and the teeth in normal occlusion, the excess fibrous tissue disappears. I am not yet sure that this will take place satisfactorily in very extreme cases, but am now trying it out in such a one.

It has been impossible, in the time allotted to this paper, to give you much in detail upon the broad subject of malocclusion, but in the splendidly-constructed paper which is to follow Dr. Fisk will present many interesting and important factors. In the clinics there will be more opportunity for specific details, and the discussion will, no doubt, bring out points which the essayists have omitted.

I desire to offer my thanks for your very kind indulgence, and trust that the contributions of the essayists and clinicians, as well as those who enter into the discussion, will stimulate all of us to a fuller realization of the fact that occlusion is the foundation upon which scientific dentistry is built.

In closing, I would like to present a few slides upon the screen to illustrate the forward drift of the teeth which plays such an important part in malocclusion, and endeavor to show the normal relationship between the denture

and the cranium, and the effect upon facial symmetry when the various parts are out of harmony.



Sale of Quack Medicines Prohibited

Ottawa—The business death knell of the quack medicine manufacturer, whose stock in trade is "cures" for cancer, gallstones, alcoholism and a host of other diseases and conditions, began ringing in the House of Commons.

Even the preparations which so many "fat and forty" women religiously take to get down to the slim silhouette of their younger days are banned under a bill introduced by Hon. Murray MacLaren, Minister of Pensions and National Health.

While the sale of these "remedies" has hitherto been prohibited under the Proprietary and Patent Medicines Act, it was possible for the trade to continue under the Food and Drug Act. Reaching gullible sufferers largely through cheap weeklies, the manufacturer was able to continue under one Act of Parliament the purveyance of wares which were illegal under the other statute.

With the passage of this bill, which will meet little or no opposition in either chamber, the marketing of "remedies" for the following diseases or conditions is prohibited under penalty. Alcoholism, appendicitis, arteriosclerosis, blood poisoning, Bright's disease, cancer, diabetes, diphtheria, dropsy, epilepsy, erysipelas, gallstones, kidney stones, bladder stones, gangrene, gastric and duodenal ulcers, goitre, heart diseases, high blood pressure, infantile paralysis, influenza, lockjaw, locomotor ataxia, obesity, pleurisy, pneumonia, ruptures, scarlet fever, sexual impotence, small-pox, spinal meningitis, trachoma tuberculosis, tumors, typhoid fever and the venereal diseases.

Mae Mellanby's Third Report

A Review

The third report on the effects of experimental work with diets and the teeth has been issued by the British Medical Research Council. This 180 page exhaustive survey is the third part of Mrs. Mae Mellanby's researches into this important field and represents the termination of sixteen years of hard labor, the histological examination of 2000 teeth, and inspection of 30,000 teeth *in situ*. Other angles of the work included the separation of children in Sheffield and Birmingham hospitals with experimental and control groups where watch was kept on the effects of different diets on the teeth in these institutions. Two reports so far issued, have had to do with diet and the development of teeth and jaws of young dogs; and diet and its effect on the periodontal tissues; this last full report has included the human race, and is entitled "The effect of diet on the dental structures and disease in man."

Dental caries is the commonest disability of the human race hence Mrs. Mellanby's report directly interests the public as well as professional men. In her investigations she found that the average tooth was poorly developed and very susceptible to decay; that caries was capricious in its manner of attacking communities, certain sections of the world being almost caries free, due, she claims, to dietary habits; and that caries in children can be checked by proper care as to feeding.

Two classes of foods were given attention, the protective and the

harmful. Among the harmful she lays special stress on cereals and bread; she urges a reduction in cereal consumption, with none at all for the very young."

"Cereals, especially those rich in embryo such as oatmeal, tend to produce badly developed teeth and call for a correspondingly larger supply of calcifying food for good development."

The better formed the teeth the more resistant they are, and resistance is directly influenced by diet. The teeth require adequate supplies of Ca and P and an ample supply of Vitamin D to insure that these are put to use.

"It has been shown that perfectly calcified and regularly arranged teeth can be produced by including in the maternal diet during pregnancy and lactation, and in the diet of the offspring at the time of dental development, substances containing much fat—soluble Vitamin, calcium, and phosphorus; such as milk, egg-yolk, fish and animal fats; the vitamin D can be obtained by exposure of the skin to sunlight or other sources of ultra-violet radiation."

"The resistance to dental caries can be increased, independently of their original structure, by giving a diet of high calcifying activity, and on the other hand, the resistance can be decreased by a diet rich in cereals and low calcifying properties."

To reduce the ravages of dental caries radical changes in the diet of pregnant and nursing mothers, infants and children should be in-

troduced. The non-protective must give way to the protective foods. Breast feeding ought to be prolonged and cod liver oil or other fat soluble vitamins given to all infants and children. Dental caries is treated as a deficiency disease to be checked by special dietary care.

Deficiency of vitamin A or carotene played an important part also in the development of periodontal

tissues and acted as an aid in inhibiting disturbances of these tissues including pyorrhea. More attention to factors governing the formation of the teeth and supporting structures with consequent increased resistance to infection will assist in the control of caries and pyorrhea which today have become such a burden to the human race.

—L. McT.

Putting Teeth in It

According to a dental professor who speaks as one having authority, the practice of dentistry is being laid under contribution in the N.R.A. crusade to increase the visible and at the same time available supply of gold in the United States. That this harvest field has been too long neglected is inferred from the statement that "if the gold standard of dental fillings and repairs was carried on during the next two years, as much gold would be buried in teeth as has been lost in shipwrecks in all recorded history."

Besides the reason that the use of precious metals for dental repairs is going out of fashion as too wasteful and expensive, there is the additional moving cause that where two metals are used in the mouth, they act as the plates in a tiny electric battery and start chemical changes around their locations which may do much insidious damage. These are the main rea-

sons why, at the University of Michigan, extensive experiments are in progress to furnish non-metallic dental repairs. Only 20 per cent. of the American people, whose teeth are the best cared for in the world, can afford adequate dental service, due largely to the necessity in the past of using precious metals. Perfection of cheap substitutes is therefore to be the next step in dentistry:

When gold, silver or platinum go into teeth, they go permanently out of circulation, unless our distant descendants take to mining our cemeteries, and this fact has already prohibited the use of these metals in some countries.

A metal filling was the best we knew in the old days, but we can now see far enough ahead to promise eventually manufactured materials for dental repairs which will be inert chemically and will defy any but an expert to tell from the real tooth.

Some Factors of Importance in Building and Retaining a Successful Dental Practice

By G. Vernon Fisk,
D.D.S., Toronto

*Read Before the Academy
of Dentistry of Toronto*

DURING a recent indisposition, I received a visit from the pastor of the church which I attend and asked him what he considered to be the most important factors in the "Building and Retaining of a Successful Dental Practice". He thought for a moment and replied: "I consider a strategic location the most important factor, preferably in a growing family district. Next, I consider in order of importance—quality of work" and paraphrased Emerson's famous quotation, "If a man can build a better mouse trap, write a better book or place a better filling in a tooth, though he build his house in the woods, the world will make a beaten pathway to his door." "Finally," he said, "I would have the office made attractive to children. I would have the dentist take a special training in child psychology, so that he could make the work for children as pleasant as possible." I think you will agree with me that was a pretty broad view of the factors that make for success in dentistry. To these might be added, the development of personality, office and personal cleanliness; suitable office equipment, the development of social contacts through memberships in clubs, fraternal organizations, churches; ambition, industry and a close application to detail, etc.

No attempt will be made in this short paper to enumerate all the factors that make for success, but having mentioned a few of the more important ones, let us consider the last mentioned by my pastor friend, the importance of working for children as a factor in building and retaining a successful dental practice.

Dr. A. C. Fones¹ states, "there can be no greater insurance that a practice will grow continuously over a long period of years than for the dentist to establish himself firmly in the minds and hearts of the children than by careful attention to their needs".

Dr. A. D. A. Mason² also states "that the dentist who does not work for children will toward the last third of his professional life find his practice dwindling. Children are the adult practice of ten years hence". But, you object, parents will not remunerate us sufficiently to make it worth while. Where could you make an investment that will pay bigger dividends than in restoring to normal the occlusion in the mouth of a growing child? Further, parents have been frequently observed to undertake dental treatment in the mouths of their children when they frankly admitted it meant that the restorations in their own mouths

would have to wait until the completion of the children's work.

But what does children's dentistry really involve? It involves, firstly, a thorough understanding and application of the known principles of prevention. As these principles are effective in inverse ratio to age, the earlier they are applied the more effective they become. It involves, secondly, simple but effective remedial measures when necessary. It also involves a sympathetic understanding of children themselves.

PREVENTIVE PRINCIPLES

IN THE "Principles Relating to Dental Health" formulated by Delabarre, endorsed by fifteen States, three national dental associations, the Fédération Dentaire Internationale, the American Society of Orthodontists, and only recently by the American Society for the Promotion of Children's Dentistry are listed the following principles of Prevention:

Proper attention to initial defects.

Particular care and attention to all pits, fissures and grooves before cavities appear.

No cavity too small to fill.

The deciduous teeth should have the same care and attention as the permanent ones, as their maintenance in health is essential to the proper development of adult occlusion.

Then follows the dynamic declaration, "Disregard of these principles and practices of accepted dental teachings constitutes a transgression of professional obligation to the patient and a serious handicap to orthodontic procedure."

Dr. R. C. Willett² of Peoria, Ill., has made a survey of one thousand cases in order to determine the

relative number of them in which caries of the deciduous teeth and its later consequences actually contributed to the complication of malocclusion. Only caries and premature loss of deciduous teeth were considered in Dr. Willett's survey, which follows:

SUMMARY FROM AN EXAMINATION OF 1,000 ORTHODONTIC CASE RECORDS. (WILLETT)

Ages: 17 months to 10 years.
Per Cent.

- | | |
|-----|---|
| 60 | Caries of deciduous teeth and defective fillings. |
| 29 | Premature loss of deciduous teeth. (Total number of deciduous teeth prematurely lost 893). |
| 8 | Caries, defective fillings, and premature loss of deciduous teeth the direct cause of malocclusion. |
| 52½ | Caries, defective fillings, and premature loss of deciduous teeth the contributing cause of malocclusion. |
| 61 | Evident need of pre-school dental attention. |

Most of the members of the Toronto Orthodontic Club have evidence of a similar nature to bear out Dr. Willett's findings. Such evidence indicates that many cases of irregularity may be prevented. If the prevention is to be effective, regular inspections should be made following the eruption of all the deciduous teeth. Bite-wing radiographs should be made from time to time to show the commencement of any proximal decay. In fact, radiography is essential to detect incipient proximal caries in cuspid and molar teeth in order that none of the mesio-distal diameter be lost. The explorer alone cannot be depended upon to detect these cavities early enough. The use of cement for restorations in such proximal cavities cannot be too strongly condemned. Perhaps the simplest and most effective restoration for these cavities is the cast overlay, a simplified technique

for which has been devised by Dr. R. C. Willett⁴.

The cases having spaces lost in the deciduous canine and molar regions, either through marked caries or premature extraction of deciduous teeth, constitute the most difficult cases which the orthodontist is called upon to treat. Moreover, in some of these, it is impossible to obtain a stable occlusion without extraction of permanent teeth. Not all premature extraction cases, however, require space maintenance. It is, therefore, advisable to measure the space and inspect the case frequently following the removal of a deciduous tooth to ascertain whether or not it is necessary to use a space maintainer in that particular case. Usually, when a second deciduous molar has to be removed before the eruption of the first permanent molar, a space maintainer is required.

NUTRITION

IN VIEW of the serious effects, then, that dental caries has upon the teeth of the growing child, we look forward confidently to the time when it shall be proved by clinical application to children that prenatal and postnatal control of diet and all the functions involved in nutrition and assimilation will produce, generally, the immunity to caries that is occasionally seen today. In a recent paper read at the A.D.A. Meeting, Buffalo, Sept., 1932, Homer B. Robison⁵, referring to prenatal conditions, states: "In our high state of so-called civilization, frequently the expectant mother is subject to acidosis, extreme nausea and starvation sometimes to the extent of osteomalacia which, of course, will affect the mineral metabolism and, while the

mother will sacrifice in favor of the child, still there is a limit to her possibilities and the time comes when the foetus will be deprived of a sufficient portion of elements to give it a proper start. In fact, this so frequently happens that it is looked upon as normal. This condition in many instances is caused by a lack of proper function or development of the corpus luteum. Then he adds this note: It has been proven that in many instances nausea gravidarum can be arrested by the use of a commercial extract of corpus luteum." Mellanby⁶ has shown in her experiments with dogs that caries can be produced in the offspring by a lack of vitamin D. during the period of gestation in diet of the mother. As most women consult their dentist regarding their own teeth during pregnancy, he is afforded an excellent opportunity to carefully check up her diet, and after consulting with her physician, to advise such changes as will be adequate for herself as well as to supply sufficient nourishment to ensure the normal development of the embryo.

Those of you who have as patients, children whose nutrition has been directed from birth by yourself or a paediatrician have, no doubt, been inspired by the fine quality of the teeth of those children, many of them attaining the age of ten years or more without a single defect. In marked contrast to these mouths which indicate such a high degree of immunity, may be shown in large number those whose diet has not been supervised in which susceptibility is equally high. A recent investigation upon rats by Mrs. Gordon Agnew at The Hospital for Sick Children, may offer a possible explanation for such susceptibility. Mrs. Agnew found that a dietary deficiency of vitamins A. and D.

produced dental caries in the teeth of rats. Other variations in the diet produced bone loss resembling human periodontal conditions. Clinical application is now being made in the mouths of children in institutions where it is hoped that caries will be arrested in the mouths of these children receiving adequate amounts of vitamins A. and D.

May we leave the important subject of nutrition with a quotation from the Preliminary Report of The White House Conference on Child Health and Protection'. "There is a large amount of data which proves that vitamins both separately and together exert a profound influence on the assimilation and utilization of available material. Investigators agree in general concerning the role of the separate vitamins: Vitamin A. seems to be associated with calcification by its influence on the regulatory mechanism which determines the growth and distribution of bone. Vitamin B. complex has only an indirect effect on the teeth by affecting the general nutrition of the whole organism. Vitamin C. has a profound influence on the tooth pulp and the formation of dentin. Vitamin D. exerts a calcifying influence on the tooth pulp and formation of enamel.

"The problem of the growth and development of the body structures and the process of calcification in bones and teeth, is highly complicated and largely unsolved. But there are some known facts which may be used to further our knowledge.

"It seems essential that there should be on hand an adequate supply of the chief building materials, calcium and phosphorus, and that they should be present in the right proportions, that is, about two parts calcium to one of phosphorus.

Most investigators agree that this ratio should be maintained, but there is not complete agreement as to the actual amounts of calcium necessary, liberal quantities of calcium being recommended by such an authority as Sherman. However, it can be said without qualification that nutrition is the most vital of all the influences deserving consideration."



HABITS

AT THREE years of age, it is advisable to carefully examine the child's teeth and note any effect upon the occlusion of such habits as thumb or tongue sucking, mouth breathing, the resting of the head upon hand or arm, etc. A copy of a set of casts of a normal three-year-old child may be obtained through your dealer from the Columbia Dental Supply from which comparison with the case at hand may be made. In a study of thumb sucking, S. J. Lewis¹ has shown that all thumb-suckers do not develop malocclusion, but there is a very little effect upon the teeth if the habit is broken before the age of three years. To correct the thumb-sucking habit, psychological methods are most effective, but where these fail, a wire cage worn upon the arm preventing the bending of the elbow or the placing of bands upon the maxillary first deciduous molars, to which is soldered a heavy wire about one-quarter of an inch from the soft tissues, are effective. The callous on the outer surface of the thumb below the first joint is, of course, a diagnostic sign of thumb-sucking.

Mouth-breathing associated with large tonsils or hypertrophied adenoid tissue, has long been looked upon by the majority of orthodontists as one of the principal

causes of distoclusion. However, in a recent survey of five hundred tonsil and adenoid cases, C. C. Howard⁹ reports only 159 mouth breathers, 94 of which exhibited normal jaws, normal arches, normal occlusion, while only 22, or 13 per cent., showed the deformity known as distoclusion. Cross-bite may often be found to be associated with a habit of sleeping with the head resting upon the extended arm. More often, however, it may be due to a lack of lateral growth of the maxillae. A judicious trimming of the deciduous teeth at the points of interference according to the practise of Lloyd S. Lourie¹⁰ will sometimes relieve the interference to normal growth during the early stages of these cross-bite cases and will be found to be all that is necessary to correct some of them.

Observation of habits will lead to the conclusion that there is a wide variation in the effect upon individuals. It is wise, however, when a habit is discovered, in order to minimize its effect, to draw it to the parents' attention and advise its discontinuance.

LATERAL GROWTH

AFTER the age of three years, there should be a gradual lateral growth resulting in spacing between the deciduous incisor teeth. At six and one-half years, this growth should have increased until the distance between the mesial of the lower canines should equal the combined width of the canines and deciduous molars. Where such spacing has not occurred at this age, the case should be carefully observed, and as long as the accurate measurement shows an increase in the lateral growth, orthodontic treat-

ment should not be necessary, as this may be only an indication of the retarded physiological growth. Some cases do require orthodontic assistance at this time and treatment should be given such cases when necessary.

TARDY LOSS

THE tardy loss of a deciduous tooth often presents a problem which again requires radiographic assistance to determine the presence and position of its permanent successor. Careful study of the relationship between the chronological and physiological ages should be made so that the deciduous tooth may not be removed too soon with a resulting loss of space. Of course, where the tooth is infected and cannot be successfully treated, or where there is no permanent successor and the plans have been made to close the space, there is no alternative to extraction. Where calcification of the permanent successor appears retarded, Lloyd S. Lourie advocates the retention of the deciduous tooth. He suggests the trimming of the proximal surface of the tooth, thus acting as a functional space retainer, at the same time facilitating the eruption of the adjoining permanent teeth. A recent discussion of the trimming of deciduous teeth with Dr. A. E. Webster, revealed the fact that he followed this procedure in his own practice over twenty years ago.

SUPERNUMERARY AND CONGENITALLY ABSENT TEETH

ROUTINE radiographic examinations will reveal congenitally absent teeth. In such cases many

of the deciduous teeth may be retained for many years, at least until the age when artificial restorations may be made. It is the practice, however, of many men to remove such deciduous teeth and close the spaces where no permanent successors are present. Supernumerary teeth usually require surgical treatment to offset any effect they may have upon occlusion, nervous system, or roots of adjacent teeth.

In conclusion, may I urge a more thorough understanding of the nature of the young child. May I ask for an enlargement of vision so that the services your patients receive may not be limited to caries, periclasia and replacements. Your field is the oral cavity and the field is indeed large. A prominent member of the Academy of Dentistry, Toronto, in fact, a past-president, stated recently that a dentist could have a fair practice from "left-overs"—things that are overlooked by other practitioners. Finally, may I request the application of the broad principles of prevention which are of inestimable value in the promotion of mouth hygiene, are less arduous to perform and should be of considerable value in retaining in a successful dental practice for many years, a greater number of patients, their children and their friends.

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Decision Reversed in Higher Court

New York—It isn't up to the person who has the toothache to say which molar he wants pulled, the Appellate Court believes.

The dentist, a majority of the court held, should extract the tooth which appears to him to be diseased.

The court overruled a verdict

against Dr. Adolf Berger, giving damages of \$500 to Mrs. Margaret Doniger.

Mrs. Doniger, according to testimony, asked Dr. Berger to pull the first molar on the lower left side.

Dr. Berger, professor of oral surgery at Columbia University, ascertained it was the second lower left molar which was diseased and extracted it.

DENTAL SOCIETIES

Eastern Ontario Dental Association

The fifty-sixth annual convention of the Eastern Ontario Dental Association was held on Monday and Tuesday, September 18th and 19th, at the Chateau Laurier, Ottawa.

There was a splendid attendance with members present from as far west as Peterboro and to the extreme east of the province. The neighboring city of Hull was well represented, too. Four or five of the Toronto dentists including Dr. Kennedy, president of the Ontario Dental Society, came down and we were delighted to have them with us.

The president, Dr. Broom, of Kingston, welcomed the members and delivered his address Monday morning. This was followed by a talk and chair clinic with patients by Dr. Frank Cole, of Toronto, on "A Full Denture Technique", stressing the Retention of Lower Dentures. Dr. Cole followed this with moving pictures showing the technique of immediate denture insertion. Rev. Fred Williams, of Bell St. United Church, Ottawa, was the guest speaker at the noon-day luncheon and gave an inspiring and helpful talk. Monday afternoon our own Felix French gave a paper on "Prosthetic Function Analysed and Simplified". This was followed by the business meeting and the report of the representative for District No. 1. Dr. Woodrow, of Brockville, among other important matters stressed the claims of the Canadian Dental Association on all dentists of Canada and as a result of the discussion which followed a committee was appointed to report. This committee submitted their report later in the day which read as follows: "Whereas in the opinion of the Eastern Ontario Dental Association in

session, the Canadian Dental Association is the most essential part of the body politic of Dentistry in Canada, inasmuch as it is the only official mouthpiece of national Canadian dentistry. Therefore this Association recommends that the Board of the Royal College of Dental Surgeons of Ontario assume its responsibility by contributing on a per capita basis Ontario's share of the finances necessary to enable the Canadian Dental Association to function." The adoption of this report was carried unanimously.

The Nominating Committee reported as follows:

President—Dr. A. W. Grace, Ottawa.

Vice-President—Dr. Sydney Bradley, Ottawa.

Secretary-Treasurer — Dr. Dwight Mallory, Brockville.

Auditors—Dr. W. C. Macartney, Ottawa and Dr. Allan Armstrong, Ottawa.

Program Committee—Dr. H. A. Stewart, Kingston; Dr. A. E. Shaver, Brockville; Dr. Geo. Hutchinson, Ottawa, and Dr. R. Robertson, Cornwall.

There were no other nominations, so the President declared the above men elected for 1933-34. It was decided to hold the next annual meeting in Brockville, the date to be decided by the executive. After the business meeting Dr. Frank Cole continued his clinic on denture construction.

On Monday evening Dr. W. J. Bell, Deputy Minister of Health for Ontario, gave a splendid talk on the work of the Department of Health and stressed the need and usefulness of dentistry in the health effort and survey they were undertaking in the five Eastern Ontario counties: Dundas, Stormont, Glengarry, Russell and Prescott. Dr. Bell especially stressed

the point that he was not in favor of state medicine or dentistry, but that this effort was an attempt to educate the people and take care of those who could not possibly pay for their own medical and dental care. Dr. Fred Conboy, head of the Dental Health Department of Ontario, followed Dr. Bell and described the methods and procedure to be adopted in the dental health survey and work. Dr. Conboy's talk was keenly discussed by the members present, and much valuable information pro and con was contributed. Dr. Harry Thomson, secretary of the Canadian Dental Hygiene Council, told in his splendid, enthusiastic way about the educational effort being put forth with the school children, service clubs, women's organizations and the press.

Tuesday morning Dr. Felix French gave a clinic on a simple and practical method of setting up artificial teeth and Dr. Frank Cole finished his talk and clinic with the insertion of the dentures made for the clinic patients.

On Tuesday afternoon there was a golf tournament at the Rivermead Golf Club. The weather was lovely and everyone enjoyed the afternoon immensely. Dr. Harry Smith, of Ottawa, won the low gross cup; Dr. Eric Young, of Ottawa, the low net cup, and Dr. Broom, of Kingston, had the low score for the hidden hole.



Northern Ontario Relief Commission Dental Coach

"I have extracted 7,590 teeth since last May, when I first started," says Dr. Washburn. "I only go into territory which is unorganized. I have also put about 250 fillings into teeth of children who have their second set. About 95 per cent. of the people I have visited never saw a dentist before." Dr. Washburn is on salary to the Northern Ontario Relief Commission, of which W. H. Alderson is Chairman.

Dental Auxiliary

Members of the Ladies' Dental Auxiliary spent a pleasant afternoon yesterday in the Round room at Eaton's, with Mrs. J. Bothwell presiding, when a musical program was given. The artists included: Miss Madeline Bone, pianist; Mrs. Pilkey and Mrs. V. Morton, who played a piano duet; Miss Amy Fleming, soloist, accompanied by Miss Gidley; and Mrs. Alvin Hord, accompanied by Mrs. Vernon Fiske. At the May meeting the annual elections are to be held.



Edmonton Dental Society

Celebrating its 21st anniversary the dental society held a dinner dance at the Macdonald, April 5th.

Easter flowers and Easter favors made bright the dinner tables at which Dr. Forrester Macdonald, the president, and Mrs. Macdonald and Dr. A. M. Revell presided.

Guests of honor included Dr. Fulton Gillespie, president of the Academy of Medicine, and Dr. Harry Thompson of Toronto, secretary of the Canadian Council of Hygiene.

Places were set for 60 guests, a few among whom were Dr. and Mrs. G. H. Brown, Dr. and Mrs. H. MacCrostie, Dr. and Mrs. G. J. Hope, Miss Grace Hope, Dr. and Mrs. R. W. Bradley, Dr. and Mrs. J. C. Ward, Leduc; Dr. and Mrs. W. Scott Hamilton, Mr. and Mrs. William Anderson, Dr. D. R. McNabb, Miss Caldwell, Dr. and Mrs. William Turner, Dr. and Mrs. R. S. Decker, Dr. and Mrs. A. M. McIntyre, Mr. and Mrs. Earl Pinch, Dr. Alexander Gemeroy and Miss Dorothy Collis.



Dental Technicians

The annual convention of the Montreal Study Club of Dental

Technicians was held at the Mount Royal Hotel on April 25th. The speaker was Dr. Felix A. French, of Ottawa, Ont. His subject was "The principles involved in the construction of artificial dentures." The following officers were elected for the present term.

Honorary-Presidents—E. A. Bulley; R. A. Copelan; G. Poitras.

President—George Blier

Vice-Presidents—E. Deegan; W. H. Stanley.

Treasurer—H. Michaud.

Recording Secretary—W. Johnston.

Corresponding Sec.—V. Therrien.

A. C. Orr is retiring President.



New Dental Clinic at St. Catharines

After several years of continuous effort on the part of Dr. D. V. Currey, Medical Officer of Health, St. Catharines is to secure a dental clinic for this city, and there is every indication now that such a clinic will be in operation within two weeks. The clinic has been assured through the combined efforts of the Associated Charities, the Lions Club, Canadian Legion, Board of Health and the St. Catharines Dental Association. The organizations have contributed money and will name one of their number as a director of the clinic. The Associated Charities have contributed \$300, the Lions Club \$200, the Canadian Legion \$60, and the Board of Health \$200.

The clinic will be operated at the General Hospital in the dental clinic established by the late Col. R. W. Leonard and hereto used only for extraction work in relief cases. The General Hospital is arranging for the larger use of the clinic and will provide a nurse, while the Department of Health will provide the record nurse for clinic supervision.

The clinic will care for dental work, both remedial and preventive, of those unable to pay for this service.



A Dental Clinic in London, Ont.

Drs. Lloyd Rogers, Shackleford & Hall conducted a clinic in London, Ont. on April 28, covering the following subjects:

Fractures, osteomyelitis, cancer, cysts, impactions, flaps, broken needles, alveolectomy, surgical pyorrhea, history of Vincent's infection and treatment, sublingual and submaxillary obstruction and stones, conduction anesthesia.



Hamilton Dental Academy Chose Officers

The final meeting of the Hamilton Academy of Dentistry for 1933-34 was held April 21 at the Royal Connaught Hotel. The evening started with a dinner at 7 o'clock at which over 60 dentists attended. During the dinner D'Irill Coons rendered popular piano selections. The head table was graced by two honorary members of the Hamilton Academy of Dentistry, Dr. A. E. Webster, M.D.S., D.D.S., M.D., former Dean of the Royal College of Dental Association; also two present members of board of the Royal College, Dr. Prestien and Dr. Bob MacDonald, both active members of the Hamilton Academy.

The retiring president, Dr. W. L. Whitelock, occupied the chair. The important part of the business session was the election of officers for the term of 1934-35. This resulted as follows:

President—Dr. Earle Jackson; Vice-President—Dr. Harry Martin; Out-of-Town Vice-President—Dr. C. Wray, Beamsville; Treasurer—Dr. W. E. Sheridan; Secretary—Dr. C. G. Paterson.

Dr. Prestien gave notice that he would move at the next regular meeting that the name be changed to read "The Hamilton and District Dental Academy." In explanation Dr. Prestien said that the academy "had come out of the tadpole stage and, like the frog, was now going ahead in leaps and bounds" and he felt that the addition of the word "district" would make those members from outside of Hamilton feel more at home. Dr. Wray gave notice that he would move the elimination of the office of out-of-town vice-president and constitute first and second vice-president.

Dr. Harry Martin, the treasurer, presented his report which showed that the academy had come from a deficit at the end of last year to a substantial favorable balance now and was in flourishing condition. The secretary, Dr. Moser, reported that the average attendance at meetings during the year was 60, that the active membership was now 85 and that during the past year the academy had received 41 applications for membership of which 32 were actually accepted into the academy. It was moved by Dr. Hill and seconded by Dr. Vivian that a vote of thanks be extended to the retiring president and his executive.



Eastern Ontario

The annual convention of the Eastern Ontario Dental Association, the secretary of which is Dr. D. H. Mallory of Brockville, is to be held in Brockville next fall. There is usually an attendance of from 80 to 100 members of the organization at its annual gathering.



Extend Dental Relief

Extension of relief dental service to embrace Toronto, Hamilton, Ottawa and London was announced by

Hon. Dr. J. M. Robb, Minister of Health and Labor.

Originally the intention had been to attend the urgent needs of rural and semi-urban sections first, but the department had met with such co-operation from dentists that the scheme could now be extended, Dr. Robb said. The cost of \$4,000 a month was small when compared with the work that was being done, he added.



Elected President

Dr. M. J. Ruddell has been elected President of the Guelph Golf and Country Club for the year 1934.



F.D.I.

Hygiene Commission

The Jessen Prize was founded by the Hygiene Commission of the F. D. I. in 1929. This prize is to be awarded, if possible, every two years, to such organization or individual as shall have rendered the most meritorious service in the field of Oral Hygiene for children during this period.

The Hygiene Commission of the F. D. I. herewith appeals to the Societies affiliated to the F. D. I. and to the delegates of the various countries, for nominations, suitably documented, of organizations or individuals who in their opinion, should be considered for the award of the Jessen Prize, by reason of their work for oral hygiene amongst children.

These nominations, on which the Hygiene Commission will base its decision, should be forwarded to Dr. Bruske, Jan Willem Brouwerplein 21, Amsterdam, Holland, before the 15th June, 1934.

For the Hygiene Commission of the F. D. I.:

Dr. Linnert (Nuremberg), President; Dr. J. Bruske (Amsterdam),

Vice-President; Dr. C. H. Witthaus (La Haye), Assistant Secretary.

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Dental Treatment for Indigents

Dental service to indigent citizens will be provided by the city, commencing May 15. Cost for the balance of the year is estimated at \$5,800. Operation of the clinic will be under the control of the Medical Officer of Health. Two dentists will be provided by the Academy of Dentistry. For any dental service the clinic decides is required the Welfare Department will issue orders on the dentist of the patient's choice.

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Dental Health of School Children

Sir Geo. Newman's report shows that out of 316 educational authorities in the country only four have no dental school scheme and of these two are being considered. In 1932, children inspected 3,302,338, of whom 2,285,644 required treatment. This was 8% more than in the previous year but an increase of only 5% were treated; the demand for treatment increasing faster than the supply, 555 whole-time dentists operate in 1,281 clinics. There is an increase in permanent fillings and extraction of permanent teeth. Sir George emphasizes that some authorities do not yet realize the difference between treating refraction errors, the removal of tonsils which do not usually need repetition and dental treatment which recurs year after year. This should require a dental staff on a greater scale than that of medicine.

The important fact of the education of parents and the public to dental disease as undermining health leading to disability must be stressed. Dental disease is

dietetic, cleanliness prevents decay and healthy teeth demand vigilance. Dental service must be educational and not extractions for a never-ending stream of casuals. — *Br. Med. Jour.*

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Parents of pre-school age children of Walkerville are not taking advantage of free dental treatment supplied by the Board of Education. Steps are being taken by the board to notify them.

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Since there are so many dental thieves operating mostly at the noon hour it would be wise to lock up more securely at noon than at night.

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Dr. S. L. Eidinger President of Mount Royal Body

The Mount Royal Dental Society have appointed the following officers for the coming year: President, Dr. S. L. Eidinger; vice-president, Dr. A. L. Scherzer; secretary, Dr. H. Israel; assistant secretary, Dr. J. Persk; treasurer, Dr. J. Pollack; librarian, Dr. I. N. Pesner; directors, Dr. E. Kutzman, Dr. M. Kolber, Dr. F. Mendel, Dr. L. Epstein, Dr. D. Muhlstock and Dr. B. L. Hyams. Dr. B. L. Hyams, retiring president, told the meeting the society's membership had been strengthened during the past year and its financial position remained sound despite adverse economic conditions.

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Toronto Association

The Toronto Dental Assistant's Association held their regular monthly meeting on Monday, April 2nd, at the Royal York Hotel. After the business session, our guest of the evening, Dr. G. V. Morton, read to us his paper entitled "Eco-

nomics", which was very much enjoyed by those present.

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Winnipeg Association

The Winnipeg Dental Nurses and Assistants Association held their regular meeting March 5th, at the "Blue Kitchen" Y.M.C.A., with Miss E. Miller presiding.

Dr. Manley Bowles, the speaker, gave a brief but interesting outline of the history and progress of dentistry.

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Coming Annual Meeting

The coming Annual Meeting of the American Dental Society of Europe is taking place at the Palace Hotel Scheveningen, The Hague, Holland, during Whitsuntide from May 18th to 21st, 1934.

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Postpone Convention

The executive of the Western Canada Dental Society have again thought best to postpone the convention to be held in Calgary in 1934, for another year.

We are co-operating with the University of Toronto to bring Dr. Lott through the West about the middle of May.

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Montreal Dental Assistants' Association

Montreal Dental Assistants' Association held their monthly meeting February 28th, 1934, at the Ash-Temple Company. Dr. E. C. Burbank, of The Montreal Dental Club and Miss K. Melvin, B.A., Dietitian Canadian Cannery Company of Hamilton, Ont., were the speakers of the evening, on the subject "Dental Health—and Diet."

Miss W. Hyde, President, presided.

Mr. J. Roston, Manager of the Ash-Temple, served refreshment.

The monthly business meeting of March 28th, 1934, was held at 1405 Bishop St., Suite 107.

Mrs. M. McKennan, Vice-President, presided.

The monthly meeting of April will be held at Dr. Victor Jekill's office at 1538 Sherbrooke W.

Dr. Jekill will speak on the subject, "Restoration on facial harmony by the use of ceramic stansis."

Miss W. Hyde, President, will preside.

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London Association

The London Dental Assistants' Association met on Wednesday, April 11th, in the office of Dr. Fred Kennedy for their regular monthly meeting.

Dr. Stanley R. Moore who was speaker for the evening, gave an interesting talk on "Primitive Religion."

Refreshments were served at the close of the meeting.

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The Ontario Dental Nurses' and Assistants' Association

The first executive meeting of the Ontario Dental Nurses and Assistants Association was held in the office of Dr. E. A. Grant, Toronto, with the president, Miss Edith Brown, in the chair.

The third annual convention will be held May 21, 22 and 23rd, 1934.

The following were named as the convenors for the convention: Miss Ellen Tuck as social convenor; Miss Helen Ansell as membership convenor; Miss Jessie Brown as convenor of the Nominating Committee.

It is the aim of the O.D.N. & A.A. to help the local Chapters in any way possible.

The annual dues are two dollars (\$2.00) payable from Oct. 1st, 1933, to

April 30th, 1933, the end of the fiscal year. The two dollars (\$2.00) cover local and provincial fees.

The next executive meeting will be held Tuesday, Nov. 28th. Gladys McMaster, Cor. Sec., 605 Medical Arts Bldg., Windsor, Ont.



Dentist For West China

Two years ago the Faculty of Dentistry of the West China Union University suffered a great loss through the death of Dr. John E. Thompson. Since that time no replacement has been made, due largely to limited finances. However, the Board of Foreign Missions of the United Church of Canada is prepared to send out a new man this year, if a suitable candidate can be found. Someone more especially interested in Operative work is preferred.

Any young graduate especially desirous of entering this form of service should communicate as soon as possible with Rev. James Endicott, D.D., Board of Foreign Missions, United Church of Canada, 299 Queen St. W., Toronto, or with Harrison J. Mullett, D.D.S., in care of 240 College St., Toronto.



Royal Dental Hospital

Scholarships, prizes and certificates for the winter and summer session, 1932/33, were presented by Sir Holburt Waring, President Royal College of Surgeons, on October 6th.

He announced that Sir Norman Bennett had important work to do in the Orthodontic section, Sir Norman having recently taken over that department. Mr. Bowlder Henry had been appointed lecturer in oral surgery and Dr. Blackman had commenced a museum of radiology. Sir Holburt Waring was strongly of the

opinion that the professional course for the dentist should be different from the medical one and that a certain number of dentists would desire a higher qualification than that of licentiate. In fact the R.C.S. of England were considering the matter. It was curious that not a single Scottish university gave a degree in dentistry. Sir Herbert noted that there were fine dental schools in London but no post-graduate school. He thought that such a school could be established to advantage.—*British Medical Journal*.



New York Dental Centennial

This meeting is in celebration of the hundredth anniversary of the founding of the first dental society, "The Society of Surgeon Dentists of the City and State of New York"; to be held December 3-4-5-6-7, 1934, at the Hotel Pennsylvania, New York City.

The plan and scope of the meeting assures a program of extreme scientific and historic interest to the profession. Formulate your plans now to attend this important event.

"New York Dental Centennial" Commission Offices, Hotel Pennsylvania, New York City.

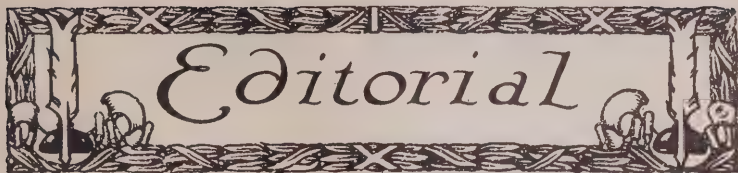


Winnipeg Association

The last meeting for the season of the Winnipeg Dental Nurses and Assistants Association was held May 7th at the Blue Kitchen.

Election of officers for the year 1934-35 resulted as follows:

President, Miss L. C. Veal; vice-president, Miss M. Gilbert; secretary, Miss F. Cummings; treasurer, Miss L. Poyner; C. secretary, Miss D. Cummings; program, Miss D. Nelson; membership, Miss M. McArthur; editorial, Miss E. Stephensen.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

ASSOCIATE EDITORS

QUEBEC—Eudore Debeau, L.D.S., D.D.S., Montreal.

ALBERTA—Leslie McIntyre, D.D.S., L.D.S., Edmonton.

NEW BRUNSWICK—James M. Magee, L.D.S., D.D.S., St. John.

SASKATCHEWAN—W. D. Cowan, L.D.S., M.P., Regina.

MANITOBA—M. H. Garvin, D.D.S., L.D.S., Winnipeg

BRITISH COLUMBIA—E. H. Hetherington, D.D.S., L.D.S., Victoria.

ONTARIO—S. Stewart Crouch, D.D.S., Toronto; W. C. McCartney, D.D.S., L.D.S.,
Ottawa.

BRITAIN—J. Menzies Campbell, D.D.S., L.D.S., F.R.S.E., Glasgow, Scotland.

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Alberta Dental Association

The Alberta Dental Association has recently completed a Dental survey in that Province. The Association has earned the everlasting gratitude of dentistry for a frank, courageous discussion of the following subjects suggested in the answers to a questionnaire. In all, there were one hundred and forty answers sent to a special committee. The feature of the report is the frank statements of the Committee and the profession. The subjects are Extension of Credits, Fee Cutting, Grades of Denture Service, Fees, Illegal Practitioners, Professional Service, Complaints of the Profession, Comments, and Minimum Standard Fee.

DENTAL NOTES

Bubbles Injected Through Spine Into Head is Latest Method of Curing Bad Headache

Youngstown.—Blowing bubbles through the spine into the head to cure a headache today had been described by Dr. Wilder Penfield of Montreal before 500 Ohio and Pennsylvania physicians attending a county medical society meeting here.

Dr. Penfield was one of four members of the McGill University faculty who lectured. The others were Dr. J. C. Meakins, Dr. J. B. Collip and Dr. John Fraser.

The headache for which the bubbles of air are used is a serious type, caused by adhesion of the brain's outer membrane to the skull, following a head injury. Air is introduced by means of a spinal puncture, and the patient so manipulated that air bubbles rise into the space between the brain and the skull, breaking the adhesions.

Dr. Meakins, discussing rheumatic fever, urged that scarlet fever patients be given as careful attention as tuberculosis patients. He advised frequent temperature records and heart measurements, and absolute rest in bed continued even after all apparent activity of the disease ceases.

Dr. Collip, one of the scientists whose researches resulted in the discovery of insulin, presented results of laboratory work in physiology in connection with the anterior pituitary, one of the endocrine glands.

Dr. Fraser discussed recent findings on obstetrics.

Diploma Forged is Claim

An action taken by Jos. Giroux for a writ of mandamus compelling the College of Dental Surgeons to allow him to practise dentistry in Montreal was aired before Mr. Justice Belleau.

Giroux claims that in 1924 he received his degree from the University of Montreal. Subsequently he went to Maine and, after showing his credentials, he practised there for some years.

The College of Dental Surgeons of Quebec Province allege that Giroux had never passed his final examination and submitted the evidence of Dr. Rosario Fontaine, medico-legal expert, to show that the name Joseph Giroux had been superimposed on another name on the diploma which the latter has in his possession.

Witnesses introduced by the defence, Monsignor H. A. Piette Chancellor of the University of Montreal, and Dr. Dubeau, rector, both acknowledged that they could find no University records showing Giroux to be a qualified dentist.

It was also revealed in the defence that during the summer of 1924 an official diploma of the University bearing the name, Dr. A. Maher, was stolen from the archives of the University.

Case has been taken under advisement.



National Health Insurance Dental Benefits

Mr. Rhys Davies, M.P., speaking at the Annual Meeting, in Edin-

burgh, in April, 1934, of the National Union of Distributive and Allied Workers (present membership over 128,000) drew attention to the unexpected result that the provision of Dental Treatment, under the National Health Insurance Act had not achieved the object, which those, who promoted it, had in view.

He said that, a few years ago, it was stressed that a clean mouth meant a lower percentage in the sickness rate. The curious fact emerged that an increase in sickness had coincided with the introduction of dental benefits.

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Complete Dental Survey of Eastern Township Schools

A dental survey has been completed in the schools along the highway in the townships of Osnabruck and Cornwall. More than 500 children were inspected by the dentists of Cornwall and arrangements have been made for a certain amount of free dental work to be done. This work is part of the health program being carried on in the five eastern counties of Ontario and will be extended to the rest of the schools in the townships as soon as the roads permit.

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Granted Patent

Washington, D.C. — Roy G. McMillan, Windsor, was granted a patent for a toothbrush holder on an application more than two years old, filed December 9, 1931. He was allowed four claims for new ideas in connection with his invention. The patent has not been assigned for manufacture.

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Incorrect Statement

The statement appearing in the Hamilton Spectator on the 16th of March, stating that Dr. C. S. Waters sent in a bill to the city for a

plate, charging \$50, is incorrect. The fee was for two plates and the materials were those specified by the order from the city.

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Czechoslovakia

Only physicians with an additional year's training are allowed to practise dentistry. A certain number of dental technicians who acquired their training through apprenticeship previous to the Act of 1920 were admitted to practice on satisfying a state examination. There have been several attempts to revive this system and, through it, establish a dental system separate from Medicine. This has been resisted strenuously. Mass meetings of students and physicians with representations to the House of Parliament in session have caused this already introduced measure to be dropped from the bills to be pressed for.

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Golf Tournament

The London and District Annual Dental Golf Tournament will be held in London at the Highland Golf Club, Thursday, June 7th. All dentists are invited to play and compete for the many prizes and trophies. The fee of \$3 includes green fee and dinner. Entry with handicap should be in to the Secretary, Dr. C. W. McCrary, 169 Wortley Rd., London, by Monday, June 4th.

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Dental Service for Needy Inaugurated

Announcement was made yesterday by the provincial department of health that payment for dental services to indigents by the province had been extended to include Hamilton, Toronto, London and Ottawa. Originally such service was given only to rural and semi-urban districts.

CORRESPONDENCE

What Others Are Doing

One of Canada's distinguished Western dentists has been holidaying in British Columbia for the past few months and in the course of a letter drew back the veil and allowed the light to shine on the hardships of practice in that land. Cash is scarce so Barter takes its place.

"After such a holiday as I have had I feel that I can cheerfully return and 'buckle up my sleeves', get 'my back to the wall' and fight the Depression, the Drought and the Hoppers to a finish. I am not very sanguine about fighting the general economic depression to a finish—but I think I can gradually come to the stage when I can pay running expenses. For some time that has been impossible. My whole cash receipts from my office business in 1933 were \$650.00. I paid part of my rent with a Full Upper and Bar Lower and a cow that I received for a Full Upper from another lady.

"For my 'Ad.' in the Local Paper I gave the Editor half of a 'Bartered Steer' and some 'Bartered' turkeys. Nearly everything is Barter with me—Five Dried out years and consequently everyone, farmers and laborers alike, are on 'Relief'. And there are five years of accumulated Dentistry.

"During the last year I received in exchange for Dental Services 150 live hens and some dead ones, 40 turkeys, 25 ducks, 100 lbs. butter, 80 doz. eggs, \$12.50 cream, cellar full of vegetables and saurkraut, 15 bags of potatoes, fresh pork, beef, sausages, bacon, smocked pork, waggon, grain tank, mower, delivery truck, Hudson-Essex coupe, cook stove, heater, 500 fence posts, 15 tons of coal, 5 live

pigs, 9 cows, 4 heifers, 3 calves, 14 work horses, 5 sets of work team harness, 2 thoroughbred bulls, a scoop shovel (for extracting a tooth)—no, that is not all, but you will understand from what I have enumerated just what I mean when I say I am getting a great "kick" out of this trading business, and I can cheerfully and enthusiastically return to it feeling that I can at least be of some service to the community.

"Were it not for my farm (three miles distant) I could not carry on this somewhat extensive bartering. Otherwise the farm has been a financial burden—I seeded 300 acres last spring and did not harvest one bushel. But the reference I have made to being of some service to the community does not apply so much to the service referred to, as to the indigents that I have been treating almost daily.

"They come twenty, thirty and forty miles on Waggon, Bennett, Buggies and some women even on horseback in Winter, crying children, abscessed teeth, Pyorrhoea, Paralysis, etc., etc. Often with tears, proud Mothers say 'We have no money—will you help us?' 'Of course I will'—so would you, Dr. Webster, and I have dried more tears and sent more swollen cheeks home wrinkled with smiles during the last year than I did during the whole fifteen years that I practised in Ontario. And I am going back with feelings of enthusiasm, knowing that I can continue to be of service and that my services will be appreciated.

"My wife, too, has many appreciative friends back on the Prairies, for many of them have had samples of her coffee and cooking, more especially when the thermometer was below zero.

"But there was one expression of sympathy and appreciation that I especially want you to know. I

*Radio Announcement by Bill Hay on "Amos 'n' Andy"
and "The Goldbergs" Programs*

THERE has been a definite pickup in business. Payrolls are reported higher than a few months ago. Thousands of people are finding new employment. As prosperity returns and incomes are increased, there will be many families who will want to acknowledge a debt of gratitude to one who has served them well during the depression — their dentist.

You have had to pay cash for many of the necessities of life — but dentists have been more lenient with their patients. Therefore, don't forget, as the money begins to come in again, to take care of the dentist you owe — the scientific man who helped to safeguard your health.



am not given to tears, but that letter put a very "big lump in my throat". Before divulging the contents to anyone, I had to take a half-hour walk on the Prairie—in the dark). I was like the Miller's Daughter in the song we 'gangsters' used to sing:

"First she sighed and then 'she cried
And then she began a singen."

"And I've been 'singen' ever since. The generous cheque (\$80.00) meant hundreds to me at that time. The sympathy, the 'personal touch'—I cannot repay. I cannot even in a measure express my thanks. I can only appreciate to that extent, that only I can know.

"In the early Fall the "Dried-out Area", including my District, received some Free Dentistry in some of the Schools—The Dental Council, the Red Cross and the Government Commission each put up \$250.00. The Government School Nurse visited some of the country schools where Dentistry was most needed, charted the pupils and then returned with the nearest Dentist.

"My own Wilfred and I were out four days—two days each. We visited 7 schools, had 124 pupils in our chair requiring treatment. Extracted 65 (15 permanent), filled 87 permanent teeth, treated scores of temporary teeth with Silver Nitrate—and about a dozen required Prophylaxis. We supplied portable chairs, lunch and received \$15.00 a Day (\$60) and that helped me a lot—and the benefits to the pupils are incalculable.

I visited an old friend in Nainimo. He has a cleft palate. He was my Lab. man for a year, kept working on an obturator or plate for his own case for years, and now has solved the difficulty. Just one continuous plate which cannot possibly move or fall out and has articulation, which was the worst

possible, is now perfect. No one could guess that he has a cleft except from the scar in his lip. He can now take his own impression and make his plate in a Day and says he can show how it is done in one-half hour. Should he ever get to Toronto I hope that the Professors at the R.C.D.S. may have a look at him—he is willing.



Dear Editor:

A dentist tells me that his chief opposition is taking out teeth usually for 50c, except nerve block at 75c, and giving the patients receipts, even over the course of years, and if they bring them in to him when they want the set made, he will allow them half on the (denture)? which he makes for fifteen dollars or two for thirty. The usual fee is a dollar for extraction and \$1.50 for nerve block, and it is pretty well charged, by most of the men.

What can we do with a man who will not play the game? Long credit and the usual people who wiggle out of paying are bad enough, but what can we do against this kind of fee cutting? Such men usually have lots of patients, so is that the level we should all try to get to?

I suppose it does not good to write you, or anyone else either, the only thing to do is to go sell insurance if this job is a flop. We sure need and could use a code of decent practice, hours and fees. Maybe we shall never get things right till we put every dentist in a clinic under government control, and every patient will pay, or the civic or provincial or dominion will pay for them. Then we can have and use the equipment we should. we shall be sure of our pay, and the people will be educated to understand what the denist is doing.

Yours truly,

H. O. D.

Nothing but the truth . . . for 30 years

From the maze of boasts and implications of dental cures made in modern toothpaste advertising, the truth of Colgate's single claim stands out bold and clear . . . as it has for 30 years.

*Colgate's can only clean teeth
. . . it takes a dentist to cure.*

MADE IN CANADA



SPECIAL

21c per tube
2 for 39c

COLGATE'S

R I B B O N D E N T A L C R E A M

OBITUARY

Dr. A. P. McInnis, Local Dentist, Dies Suddenly

Dr. A. P. McInnis, a dentist in Winnipeg for more than 30 years, latterly specializing in X-Ray work, died suddenly of a heart ailment Sunday evening, April 8th, at his rooms, 618 Somerset Building.

Born in Eastern Canada, he came West with his parents as a child, receiving his early education at the Old Central school on William Ave. He graduated from the Philadelphia Dental School in 1899.

Dr. McInnis practised dentistry in Brandon for a number of years before returning to Winnipeg.

The late Stanley W. McInnis, a member of the Manitoba legislature, 1900-1902, for Brandon constituency, was a brother. No blood relatives of Dr. McInnis are known to be living.

Associates in the dental profession expressed regret and surprise at Dr. McInnis sudden death. Although quiet and retiring by nature he had always been a generous and helpful friend, they said.

Dr. Walter J. Quinlan Passes Suddenly; Came to Victoria, B.C. in 1886

Dr. Walter J. Quinlan, who came to Victoria in 1886 and practised here as a dentist for many years, passed away suddenly at his home, 2354 Dalhousie Street, aged seventy-three years.

Dr. Quinlan was born in Ontario, and at the age of twenty-five came

to Victoria from Dunnville, Ontario. He practised as a dentist until about fifteen years ago, when he left for Ocean Falls where he started a practice and also acted as postmaster for some years returning to Victoria about seven years ago.

He was a member of Victoria Columbia Lodge No. 1 A.F. and A.M., and is survived by one daughter in Taft, Cal.

Dr. C. H. Gatewood Dies

The death of Dr. C. H. Gatewood on February 6th, after a brief illness, removed one of Vancouver's oldest and most respected citizens. Born in Middlesex County, Virginia, he graduated from the Baltimore College of Dental Surgery in 1886. He practised in West Point, Virginia, for two years before coming to Vancouver in 1888, where he practised until his death. Dr. Gatewood, with the late Dr. Jones, was instrumental in framing the early British Columbia Dental Legislation and was one of the founders of the Vancouver Dental Society. In later life he was one of the honorary members. During his lifetime, he was active in civic affairs, serving several terms as director of the Vancouver General Hospital, also the Vancouver Parks Board, where he had an opportunity to display his ardent love of flowers. He was an enthusiastic Rotarian and active member of the Jericho Golf Club.

Dr. Gatewood is survived by his wife, one son and a daughter.

ORIGINAL CONTRIBUTIONS

The Status of Evipan In Dental Anaesthesia

THE number of inquiries received, and the active interest shown in this latest addition to the drugs of the barbituric series, would appear to warrant a resumé of the literature and accumulated knowledge of this drug in its relationship to dentistry.

A "Report on the Clinical Value of Evipan," (from the Anaesthetic Committee of the Medical Research Council) was published in England in the issue of the *Lancet* for July 1, 1933. Altogether, the report must be considered as favorable, with certain qualification, and the following abbreviated form is taken directly therefrom.

ENCOURAGING REPORTS had preceded the drug from Germany, where 25,000 cases had been reported, with one death attributed to evipan. Pharmacologic work in Germany had shown the drug to have a high therapeutic quotient in cats and dogs. In the former, 25 mg. gave full anaesthesia, while the lethal dose was from 100 to 110 mg., a therapeutic quotient of 4, while in dogs the quotient was 3. Parsons found 0.1 cc. of a ten per cent. solution caused a fall of 25 mm. of mercury in the blood pressure of cats, with slow recovery, and apnea for 20 seconds. After a total of 0.6 cc. of a ten per cent. solution was injected, artificial respiration was needed, and the blood pressure fell until death.

The anaesthesia was of rapid onset and short duration. It is a non-volatile anaesthetic, but is rapidly detoxicated in the liver. Rabbits decompose half the narcotic dose within 13 minutes, and traces of the unchanged drug are excreted in the urine. By-effects were found to be slight. The blood pressure fell 15 to 20 points, but the pulse was full and regular. Overdose caused the cessation of breathing, with the heart continuing to beat for some time after. Blood sugar was unaltered, and the general effects on the body were slight.

TECHNIQUE.—Evipan is supplied as a powder in a sealed ampule, along with a sealed ampule of distilled water. Both ampules are opened, the distilled water is aspirated into a suitable syringe, and expelled into the ampule containing the dry evipan powder. The powder is readily soluble, and dissolves completely when the fluid is aspirated backward and forward once or twice. The solution is then injected with aseptic precaution into a suitable vein, usually the median basilic vein. The arm should be held steadily as there is usually some twitching, and the solution is run in at the rate of 1 cc. in 15 seconds. The dosage should be determined by the character of the patient and the results noticed. Injecting a fixed amount according to a fixed scale of body

weight is not a good practice. The average amount to produce unconsciousness is about 3 cc. The practice of Lauber of Konigsberg of having the patient count aloud during the induction is good. When the patient stops counting, on account of unconsciousness, the amount injected is noted, and a further same amount is injected for a short operation, and twice as much for a long one. In elderly and feeble people, and those who have gone to sleep quickly, only half the amount required to produce sleep is added. Most people are asleep in one minute. There is often some twitching or jactitation, but often complete relaxation of the tongue and jaw occurs early, and care is needed to preserve a patent airway. Ten cc. is regarded as a maximum dose. The needle has been left in the vein, and a further amount up to 20 cc. have been injected, but no advantage is seen in thus using evipan for long operations.



SYMPTOMS—A deep yawn, just before the disappearance of consciousness, is common. The majority of patients fall quietly asleep, but sometimes there is twitching of the facial muscles, and jactitation of the limbs. In one case tonic contraction of many muscles and brief stoppage of respiratory movements was noted. Relaxation varies, but is rarely extreme, or sufficient for abdominal operations. During the surgical stage the pupils usually are moderately dilated, but active to light. In the early stages they are sometimes widely dilated. The conjunctival, and usually, the corneal reflexes have disappeared at the moment of fullest effect, but even then reflex movements have been seen at the start of the operation. The eyelids are sometimes widely separated.



THE EFFECT ON BLOOD PRESSURE is slight, there commonly being a fall of 20 to 30 mm. in pressure, which is quickly recovered from. The respiration is often somewhat slowed, but there has been no serious depression, except in one case, where, unknown to the anaesthetist, a full dose of morphine and hyocine had been previously given. This case was relieved by artificial respiration, oxygen and carbon dioxide. It is felt to be inadvisable to give pre-operative sedatives, and no special preparation of the patient is necessary, although it is well to have the stomach empty.

Subjective symptoms described by reliable patients are a feeling of increasing lassitude which cannot be overcome, and pleasant loss of consciousness in a few seconds. It is best to wait two minutes after loss of consciousness, before operating. The length of time of unconsciousness is 10 to 20 minutes in the average dose, after which time the patient can talk, but is sleepy, and if left quiet will drop off to sleep again. When he awakes he remembers nothing but the first prick of the needle.

Different patients react differently, as is the case with other anaesthetics, and their exact behaviours cannot be foretold. They may go to sleep quietly and yet resist on incision to an extent requiring a supplementary anaesthetic, while on the other hand, three cc. may give a perfectly satisfactory, though of course, short anaesthetic. The findings of the Committee do not corroborate Ernst that almost always one can count on one-half hour of good anaesthesia, and it is possible that German surgeons are satisfied with a lesser state of narcosis than here. At any rate their reports describe

a more constant and sufficient anaesthesia than that obtained here with the same dosage.



CONCLUSIONS.—Evipan should not be looked upon as a basal narcotic in the sense that avertin and nembutal are. As a preliminary to prolonged anaesthesia it should rather be classed along with nitrous oxide and ethyl chloride. Everyone agrees on the rapidity and pleasantness with which the patients fall into unconsciousness. Excitement or restlessness were seen only in unusually emotional subjects, and after effects were of rare occurrence. It can be relied on for short operations when the possibility of slight reflex movement is not a matter of great concern. It is true that the anaesthesia is often profound, but it is not obvious that it is a better method than nitrous oxide and oxygen. Quiet induction, and recovery free from after effects make it a valuable anaesthetic for patients who are gravely ill when a short anaesthetic is required. When administered by mouth it has been found to be less effective than nembutal.

In the same issue of the *Lancet* in which the above report of the Anaesthetic Committee appeared, Messrs. Abel and Jarman, who assisted the Committee, *published a comprehensive report* of their findings. They had secured 100 ampules on the Continent in March of 1933, and had used it as a basal narcotic prior to general anaesthesia. Three to five cc. intravenously produced unconsciousness in 14 or 15 seconds, and thereafter any general anaesthetic could be used. Secondly they used 2.0 to 3.5 cc., giving from three to five minutes complete anaesthesia for dental extraction, opening abscess-

es, setting of fractures, etc. Where this amount was used the patients were conscious in 4 or 5 minutes, and were able to walk home in 15 minutes.

The jaw and tongue relax and care is necessary to maintain the airway. There is no doubt that for a moment or two there is definite diminution of the respiratory centre and they stress that this be watched. Blood pressure dropped rapidly about 20 per cent., both systolic and diastolic, but returned to normal in an equal space of time. The pulse rate rose to an equal degree, but again rapidly returned to normal. No alteration could be determined in the blood urea, blood sugar, or faeces up to seventy-two hours after the operation, and nothing was found to indicate that evipan had any deleterious effect upon any organ of the body.



THEIR TECHNIQUE was to inject into the median basilic vein. The first two or three cc. are given fairly quickly, followed by a pause of 15 to 30 seconds, in which time the patient is usually asleep. Further dosage is given according to the length of the operation. They have given 2 to 3 cc. for infants and small children, and a maximum of 11 cc. for the average healthy adult for major operations. The beginner is advised to refer to the Bayer table of weight dosage until they are familiar with the drug. After the injection of the first few cc. of the drug slight tremors had been noted, passing away in a few seconds, and the patient was then quiescent with normal pulse and respiration. It has been noticed that where the dose has been insufficient that the patient has been resistant throughout the operation, although quite unconscious.

PRECAUTIONS

One hundred cases are reported, less than eight of which were dental cases. No shock was apparent either during or after the operations. In two cases there was leakage and injection of evipan into the tissues about the vein without harmful results. They consider it a useful addition to existing anaesthetics, if reasonable precaution is taken in its use. They counsel against using it single-handed, as the airway must be maintained. Carbon dioxide and oxygen should be at hand as resuscitants, together with coramine, in case of respiratory embarrassment, and they do not consider it suitable for feeble or toxic patients, or those suffering cardiac or respiratory failure. Since it is detoxicated in the liver, it is contra-indicated in jaundice. Until it is more widely used evipan should be confined to expert anaesthetists, who can maintain the airway, apply restoratives, and resort to some other general anaesthetic, should the operation be prolonged.

About the same time as the appearance of the above reports, Dr. E. Kobel (*Deut. Med. Woch.*, June 30, 1933) published an essentially similar report, but believes that much care is needed even for short operations. He declares that not all patients are safe in being allowed to go home alone after the administration of evipan, as a proportion suffer from double vision and delayed restlessness to an unsafe degree.

The July 29, 1933, issue of the *Lancet* carried a communication from M. A. El Moneim El Diwany of Shebin-el-Kom general hospital, Egypt. He states that his experience with evipan differs somewhat from the Anaesthetic Committee. If 7 cc. are given at the start, and

the patient comes around in 15 minutes, the remaining 3 cc. will give an additional 15 minutes of anaesthesia. He had obtained good relaxation with it, and had used it in appendix operations and caesarean section. 3 cc. were useful to start sleep in neurotics, and he considered it a satisfactory anaesthetic in private practice when an anaesthetist was not available.

CAUTION

For almost a year now, since the date of the above publications, reference to evipan in the literature of the Medical profession has been very sparse, and as yet the journals devoted to the field of anaesthesia on this continent have made no mention of it. The Medical profession has apparently accepted it as a desirable addition, but with due limitation and qualification. Not so the Dental profession, however. In certain quarters they have rushed to adopt the new anaesthetic with more haste than caution, and the Dental literature on the subject is already becoming profuse.

The November, 1933, issue of the *British Dental Journal* carried a critical query as to why the journal had apparently refused publication of a paper reporting 100 cases of evipan anaesthesia. The same issue editorially remarked that all anaesthetics have some drawbacks, but substitution or conjoint use of other new ones should be entered upon with great caution. It has not been proven that any one of them has an advantage over nitrous oxide for dental purposes, whether pernocton, sodium amytal, avertin or evipan, and whatever may be their use in selected cases, their indiscriminate use should be withheld pending further investigation.

The December 15, 1933, issue of the *British Dental Journal* carried a communication from Mr. C. W. Holburn in praise of evipan as a dental anaesthetic. He states that no elaborate apparatus is necessary to administer it, the patient falls quietly asleep and remains so throughout, and on recovery there is no nausea or bad taste in the mouth. Its disadvantages he cites as being the necessity for a prone position of the patient, and the need of a room where the patient may rest for at least one hour post-operatively.

In the same issue Dr. Nodine states that he has seen evipan used with success, but that he preferred local anaesthetic because the patient must be recumbent, and secondly, because it was unwise for the patient to leave the premises for four to six hours after administration of evipan.

BLOOD PRESSURE

Dr. Gavin Miller reports in the *Canadian Medical Journal* for December, 1933, on 22 cases. In two of these the blood pressure rose ten points, it remained stationary in 4, and fell from five to twenty points in the remaining cases. The pulse fell ten to twenty points in six cases, remained stationary in six others, and rose from ten to forty in the remainder. The respiratory rate remained practically unchanged. Two patients showed emotional excitability after consciousness returned for from 15 to 30 minutes. One patient, a child of eight, after tonsilectomy and receiving 3.5 cc. of solution, exhibited tetanic convulsions and tachycardia for three hours. The anaesthesia had been perfect, and these phenomena occurred on waking. He remarks on the pleasant reaction of the patients to the drug, and

states that it may become valuable in chosen operations.

RECOVERY

The January 1, 1934, issue of the *British Dental Journal* carried a report on dental anaesthesia with evipan by Mr. John Bunyan. He considers premedication unnecessary. Owing to the fact that the throat reflex is not abolished it is impossible to block off the throat with sponges, and therefore it is more convenient to have the patient in the usual dental chair position, rather than lying down. He discounts the chances for cerebral anaemia due to a fall in blood pressure. A tourniquet is applied to the arm, so as to make the veins stand out, the median basilic or cephalic vein is punctured, the tourniquet released, and the solution injected at the rate of 1 cc. every five to ten seconds. Evipan is contra-indicated in gall bladder and liver disorders. The only unfavorable sign he finds to be respiratory embarrassment of varying degree. He suggests injection of lobeline in cases of serious respiratory depression, and the administration of carbon dioxide in those cases less serious. The recovery period had varied greatly, but in most cases the patient left within half an hour of coming around, but four cases took an hour or more to recover fully. He had found it advisable to send the patient home in a car, not allowing them to drive.

In the same issue, Surgeon Lieut. Commander Williams reports two eminently successful dental cases from the Royal Naval Hospital in Bermuda. He remarks on the small amount of hemorrhage, and attributes it to the fall in blood pressure, which in one case fell from 148/100 before to

128/100 after the operation.

In the same issue also, Mr. F. M. Holburn reports on five dental cases. He reports that after recovering sufficiently to talk drowsily, it is usual for the patient to sleep for several hours.

Mr. J. H. Stevens reports in the British Dental Journal January 15, 1934, of obtaining anaesthesia in a difficult case with eight cc. of solution, in from twenty-five to thirty seconds, and without struggling, although the patient had previously been violent with both ether and chloroform. There was ten minutes of available anaesthesia, ten minutes later the patient was normal, and three-quarters of an hour after felt no ill effects whatever. He suggests that a rest room is necessary, and the prone position is desirable in case of respiratory embarrassment.



PRONE POSITION

The British Dental Journal for February 1, 1934, carried an article from Mr. W. Calder Archibald, taking issue with Mr. Bunyan on operating in the dental chair with evipan, owing to the fall in blood pressure. He states that it will be regrettable if the place evipan should hold should be sacrificed through over enthusiasm and illogical argument as to its safety under all circumstances.

In this same issue Dr. Nodine again stresses his preference for local anaesthesia, and states that Dr. D. H. LeGood, whom he saw demonstrate the anaesthetic, brought out that the recovery period is four to six hours, during which it is incautious to allow the patient to leave the premises.

Dr. F. W. Saunders reports favorably on the use of the drug in Montreal, Dr. Gavin Miller having brought some from England.

Unfortunately, the issue of the British Dental Journal for February 15, 1934, carries the unfortunate report of two fatalities due to the administration of evipan for dental operations. The first was a patient in hospital, female, obese, and 50 years of age, with a history of previous cardiac trouble. The pulse was good, but on injection of evipan the lips went blue, and it was noticed that respiration had stopped. Restoratives were applied and artificial respiration was resorted to for three-quarters of an hour, but without result. In the second case details are meagre. The patient, a female, aged 60, died after an injection of evipan. It was administered in a dental office by a Physician at the request of the Dentist.

Editorially, the Journal in the same issue remarks in commenting on these fatalities: "The difficulty in resuscitating a patient unduly affected by it (evipan), insufficient present knowledge of its action and of conditions which should inhibit its employment in certain cases are likely to prevent its general introduction in dental practice for some time to come." It further quotes the Lancet as follows: "It will be a mistake if it is pressed too eagerly into the place of nitrous oxide and further 'justifiable' does not apply to its general employment for ordinary extractions in the dental chair."

In the March 15, 1934, issue, Jarman again writes, stating that there is evidently some misunderstanding with regard to the use of evipan in dental practice. After 900 cases, he feels that a Dentist should never give it single handed, and never to a patient sitting upright in a dental chair, owing to the sudden, and sometimes severe, fall in blood pressure. The patient should never be allowed to recover unattended, and a trained nurse or

medical attendant should be present till the patient recovers. He states his technique is to inject $2\frac{1}{2}$ or 3 cc. fairly quickly in from 5 to 10 seconds, and then wait for 30 seconds, the time for one complete circulation of the blood. Unconsciousness then occurs, when one or two teeth may be extracted and the patient comes around in two or three minutes. After resting on a chair for twenty or thirty minutes they may be allowed to go home. Larger doses mean slower recovery and more post-operative attention. During the whole period of unconsciousness the patient's airway must be maintained, and if necessary an airway should be kept in situ. Until the patient regains complete consciousness this should receive the utmost attention. He adds that if the patient is a highly strung person he is apt to struggle, and if such is the case evipan should be supplemented with nitrous oxide. As the time of recovery is sometimes lengthy, it is inadvisable to use it in the Dental Surgeon's room, or in the out-patients' department of hospitals, due to limited staff and lack of space.

Following this, Bunyan reports almost 400 dental cases with evipan, and states that it has been rarely that he has been unable to finish the job uninterrupted by lack of anaesthesia, or by any alarming state of the patient. Recovery time varied, but it was rare for a patient to be in the recovery room more than 45 minutes, when they went home in a taxi. His reply to Mr. Archibald is that the fall in blood pressure is very slight, and if it should occur near the end of the operation, it can be rectified by lowering the back of the chair. He sees no objection to the dental chair position.

On April 3, 1934, the British Dental Journal published from A.

D. Marston, M.R.C.S., I.R.C.P., L.D.S., as follows, in *summary*: He notes that small veins may be traversed without bad results, and that extensive pro-operative preparation is not required.



DOSAGE

He has found the average dose to vary from five to seven cc., and recommends the scale of dosage as suggested by Lauber. Muscle twitching sometimes occurs, and may be due to too slow, or too fast injection, and he suggests a rate of injection of one cc. each fifteen seconds for the first minute, and subsequently one cc. for each ten second interval. At the surgical clinic at Kiel, an attempt had been made to standardize the dosage in cc. per kilogram of body weight, while at Konigsberg Prof. Lauber had suggested that a constant rate of injection of fifteen seconds per cc. should be maintained, while the patient counts aloud. When the patient falls asleep, the amount injected is noticed, and he then gives, for a short operation, as much additional evipan as has already been given, and twice as much for a long operation. Lauber further recommends that, with elderly and feeble patients, the induction dose be followed by only half as much again for a short operation, and one and a half times as much for a long operation. Marston adds that these attempts at standardization of dosage are often associated with grave error because of the widely different reactions of various individuals to the drug.

The depth of anaesthesia varies a great deal, from full surgical anaesthesia, with complete muscular relaxation and absent corneal reflex, to imperfect relaxation and a certain amount of reaction to

stimuli observed throughout the whole anaesthesia, but adds that in these the patients are completely unconscious. Usually, however, the anaesthesia is tranquil.

He gives hepatic insufficiency as almost the only contra-indication to the drug, and notes that the surgical clinic at Kiel has suggested that from thirty to fifty per cent. of the usual dose should be deducted in the case of obese, anaemic, septic, feverish, cachectic, and all seriously ill patients, while the manufacturers emphasize especial caution in peritonitis, ileus, eclampsia, diseases of the central nervous system, widespread cancer, and severe general disturbances of metabolism.

DENTAL CHAIR

If the patient is healthy and sound, and the operation is not to exceed a period of fifteen minutes, he sees no objection to administering evipan in the dental chair. Patients should be kept for at least an hour before being driven home, and adds that if we use evipan to perform operations that demand hospitalization, we are making a retrograde step, which in the long run will cause accidents and regrettable publicity for an anaesthetic which is an excellent one, as long as it is kept rigidly for the use of limited operative procedures. In concluding he states, "For the great majority of dental operations in the dental chair, I still consider gas-oxygen to be the first choice. But in those cases which are known to take gas-oxygen badly, evipan is a convenient alternative."

Mr. R. R. MacIntosh, also in the issue of April 3, states that he must cross swords with Jarman in the matter of not administering evipan in the dental chair. He reports 670 cases, over half of which were for dental operation,

and says that he has no compunction in administering evipan with the patients sitting upright, provided that they were in average health. He concludes that fall in blood pressure depends mainly on the amount of evipan used, and states his practice has been to give just enough evipan to produce sleep, and then continue with gas-oxygen until the operation was completed. (To the writer this method appears to be gas-oxygen anaesthesia, with evipan used as a basal narcotic, rather than evipan anaesthesia).

Dr. LeGood, in the Public Dental Service Gazette, gives a review of 53 consecutive cases of dental anaesthesia with evipan. These cases were almost equally divided between extractions not suitable for the out patients' department, and patients who were referred from the wards. Anaesthesia was required for from 8 to 20 minutes, with one case requiring 26 minutes. Most of the cases received ten cc. of the drug, and a maximum of sixteen cc. had been given. The anaesthesia, with one exception, was excellent, and entirely free from anxiety. The cough reflex has been present in every case, and the bleeding from the gums identical with that found in ether anaesthesia. The patients have awakened usually within thirty minutes of return from the operating room, and after about 15 minutes of wakefulness, have again slept soundly for from three to five hours. The purely dental cases have all been fit to discharge to walk home unaided nine hours after extraction. In five cases marked post-operative restlessness was noticed. One-quarter grain of morphine was administered in one case, while the restlessness in the other cases subsided in five to ten minutes. He reports the following cases among others:

RECOVERY

1. Three cases of alcoholics who had been gas tolerant in the out-patients' department. In all three the anaesthesia was excellent, and from the medical aspect the anaesthetic considered ideal.

2. Male, age 19 years, thin but wiry type of youth. Patient used as a demonstration case before a society of Dentists in a public hall in London. Ten cc. of evipan administered at 8 P.M., the anaesthesia being ideal, and the extraction taking 8 minutes. On rousing at 10.30 P.M. to return to his home, he appeared drunken and reeling, though quiet and untalkative if allowed to sit down. On returning home he slept soundly, and went to his work early the next morning.

This case alone, he states, leads to the conviction that the report of V. Goldman in the Dental Magazine and Oral Topics, of a barman, aged 35 years, who after receiving 7 cc. of evipan intravenously, regained consciousness and drove his own car home in an hour, is a dangerous procedure.

While the above résumé of the published observations of many practitioners is essentially in agreement on many points, it cannot be denied that it lacks that complete unanimity that certainty of information, exactitude in observation and soundness of judgment should warrant. There are divergent opinions as to the amount and rate of injection of the drug, as to the presence or absence of the throat reflex, as to the length of the recovery period, the amount of post-operative care required, and the advisability or non-advisability of administering it in the dental chair.

It might at this point be well to remember that after the first flush of experimental ardour induced by

the introduction of such intravenous drugs as sodium amytal, etc., some years ago, preference for this type of anaesthetic has been progressively on the wane everywhere, save in a few isolated cases. Being non-volatile, evipan belongs in the class of uncontrollable anaesthetics. Volatile anaesthetics, even in toxic dosage with depression of the respiratory centre, may be eliminated from the system in a minute or two by the withdrawal of the anaesthetic and vigorous artificial respiration, but not so with an intravenous anaesthetic. Once evipan is introduced into the system its detoxication and elimination must depend on body processes over which we have little or no control. Coramine has been recommended as hastening elimination of the drug, but it is not likely that its action in this respect is as striking as has been reported in some quarters.

IN CONCLUSION the writer would like to add a few observations gained from his own very limited experience with this drug. First, let it be said, that I am distinctly not in agreement with Bunyan that a throat pack cannot be used. In all of the dental cases I have seen to date it was possible to protect the patient with the usual throat pack, and a conventional metal airway was inserted experimentally in each case with absence of reflex, though, of course, this may not be universally true. However, it cannot be too strongly stated that any general anaesthetic that does not give the patient the protection afforded by the conventional throat pack, from blood, mucous, debris, teeth, or fragments of teeth, has no legitimate place in the field of dental anaesthesia.

I am also in disagreement as to

the small amount of hemorrhage reported by various operators. Marked capillary flushing has long been noted after the administration of barbituric compounds, and may be largely responsible for the pinkness of the patient during evipan narcosis. If so, one would expect it to be conducive to hemorrhage, which in the cases observed has been fairly free.

There further appears to be no certainty as to the extent of reaction of the patient to barbiturates, nor of their length of duration. When administered per os this was usually explained as being due to a difference in the rate of absorption from the intestine, but this is obviously not the whole explanation, as there is also marked variation when they are given intravenously. It would appear that the effect is governed by the general rate of the patients' metabolism, and as has been already stated, any hepatic insufficiency leads to abnormal depression and delayed elimination of the drug. Expert practising anaesthetists have admitted to the writer that they are incapable of being entirely sure of the exact liver condition of their patients in every case. If this is so, it is manifestly impossible for the general dental practitioner to proceed with any definite assurance in many instances.



VENIPUNCTURE

Moreover, the puncture of a vein is not always of a minor degree of difficulty. Numerous instances have occurred in which the veins have been traversed, and the solution infiltrated into the tissues surrounding,—fortunately a harmless incident, but indicating that the feat of venipuncture is not always simple. In one series of twenty-eight cases reported by a physician

the veins had been accidentally traversed in five. If this difficulty arises with the physician who is accustomed to venipuncture in various phases of his practice, it cannot be without difficulty for the general practitioner in dentistry, who is untrained in this respect. Again, certain people, more particularly women, have their veins so deeply buried as to be not readily located, and in one case presenting they could not be demonstrated with certainty at all.

For several years now nembutal, per os, has been used as pre-anaesthetic medication to nitrous oxide-oxygen in hundreds of cases at our clinic. The dosage has been from $1\frac{1}{2}$ to $3\frac{1}{2}$ grains, according to type, and one of the most striking observations made on these patients, apart from the quietness of induction and increased oxygen tolerance, is the degree to which the throat and cough reflexes have been dulled by even these comparatively small doses of a barbiturate. Indeed, there were three cases, directly following the completion of the operation, and the withdrawal of the anaesthetic, in which this condition proved embarrassing, and one in which it proved slightly alarming, due to the fact that the patient had aspirated mucous into the trachea, and with the reflexes dulled by the barbiturate, made no effort to cough, with rapidly ensuing evidence of *asphyxia*.

With this complication arising after the administration of a small dose of one member of the barbituric series per os, it might be well to consider the condition of a patient seated in a dental chair deeply unconscious from an intravenous injection of another drug of the same series. Consider that hemorrhage is free, with liberal secretion of mucous, that the tongue and jaw are relaxed to such

an extent that they constantly menace the freedom of the airway and demand continual attention, and that you are working with an unskilled assistant, and that no aspirator is at hand. Suppose also that the patient in the chair is one of those that reacts abnormally to the drug, and (as I have seen in one case) that it will be almost two hours before he regains consciousness under the best of circumstances. Suppose, however, that in this case the respiration becomes depressed, with final cessation, after blood and mucous have been aspirated into the trachea. The above is pure conjecture, but should it ever happen to you, would you not for ever be sure that *the dental chair is no place for such an eventuality to arise?* The vigilance required to prevent strangulation of the patient during the time of average recovery is onerous enough, and in the cases of delayed recovery of those patients who lie, thoroughly drugged, threatening at any moment to drown in their own blood or mucous, or asphyxiate through mechanical blockage of the airway, while not a pleasant thought, is an ever present possibility.



HYSTERIA

There is also the factor of occasional post-operative excitement to contend with. It has been known for some years that in very occasional individuals the administration of barbituric compounds have tended to produce hysteria, rather than hypnosis. The post-operative excitation occasionally exhibited by patients following evipan anaesthesia may arise from this fact, but in any event, a patient exhibit-

ing such tendencies would greatly distress an inexperienced nurse or attendant, who had not previously had experience with such cases.

The record of this drug to date, namely, one death in Germany in 25,000 administrations, and two deaths in England in considerably fewer administrations, gives no indication that its factor of safety even distantly approaches that of nitrous oxide and oxygen, but the writer does not wish to infer that evipan has no place in dental anaesthesia. He does, however, believe that its safe administration demand that the patient be in the prone position, that a capable assistant and efficient suction apparatus be at hand, and that carbon dioxide, oxygen, and coramine be at once available should distressing symptoms arise. Administered under these circumstances to those cases for whom it is indicated, it may well prove a genuine source of comfort and convenience to the dentist, and a source of pleasure and benefit to the patient.

The manufacturer has taken some time in making it available to the Dental Profession on this continent, whether withholding it from scarcity of supply, pending further research, or for some other reason. They have now announced it to be commercially available in this country, however. Although the drug has already a fairly extensive literature under the name of "Evipan," for some reason the manufacturer is placing it on the market on this continent under the name of "Evipal Soluble." Whatever its name may be, future research and development of this drug should be watched with keenest interest by Dentists the world over.

The Revival of the Celluloid Compound as a Base For Dentures

By T. C. Trigger, D.D.S.,
St. Thomas, Ontario

The new adaptation of old processes have so frequently appeared in dentistry as well as other allied callings, that the student who has commenced the study in these important vocations has many things revealed to him as "a new discovery" and is liable to convey the idea that the ever present generation in which he lives has brought out the latest things for the benefit of mankind never known to exist before and the former generations were much "in darkness."

The progress of our profession, however, has been very remarkable; new theories have superseded old ones; old methods of technique have been replaced by new methods, etc. We must give credit to the generations who have preceded us for the great development of our profession. There is an old proverb which we should always keep in mind in our daily practice, which says, "Under the lamp it is dark," and the progress of things will be revealed to us in due season.

The basic principles of making inlays have long been known, of artificial tooth forms, and many of the materials now used in the construction of dentures, etc., the latter one the writer wishes to refer to.

In recent years there has been considerable investigation in the department of prosthesis, which

has greatly benefited those who are devoting their time to making artificial dentures, by the improvement of methods and materials used in their construction.

The construction of artificial dentures on a celluloid base is by no means new. When this compound was first introduced for dental purposes, two kinds of this substance were made known as celluloid and zylonite, these were of different constituent but practically the same material.

It was back in the early '70s when this material was first introduced in Canada and the United States. Patents were issued by the government to a firm holding claims on special process of producing this material and also for special denture blank forms with patent claims granted in 1870, '71, and '74. The material for these forms was supplied by the Newark Celluloid Mfg. Company, organized by a man by the name of J. Smith Hyatt. Dental firms became active in constructing apparatuses to make this new form of base for artificial dentures; the Hyatt appliance steam was used to soften the blank forms before pressure was applied. The oil method was also used and the dry-heat method appliance was made under the trade name of "The Seabury Dry-heat Apparatus," this latter method was the most practical one

then in use. When the writer first commenced the study of dentistry in the office of Dr. E. A. Teskey, this material was extensively used as a base for artificial dentures, and we were using Seabury's dry-heat apparatus. Vulcanite rubber process was almost entirely abandoned in preference to this new way of making dentures. Dentists and patients were very enthusiastic over this new denture process similarly to which was manifested during the last few years, when clinics have been held throughout the country to demonstrate this apparently "new process" in constructing dental base-plates. Dental firms made different forms and advocated different processes of making these plates and placed upon the market complicated appliances costing a fabulous price.

The process of constructing these denture base plates is a very simple one and does not require very much skill to carry out the technique, as there is in the scientific process of making vulcanite, and the correct heating process of the rubber in the vulcanization.

If I remember rightly those celluloid blank forms were sold by the supply houses at \$1.15 and \$1.25 a blank form, according to the size. Number 4 was the usual size of an upper blank form.

Most any dentist, if he cares to, can make a celluloid apparatus, in fact the more simple form of an appliance will do the work just as well as a more complicated and high-price one. A very simple appliance at a small cost may be had from supply houses, known as "The Brown Celluloid Apparatus," which will answer all purposes.

The celluloid base-plate dentures had a short life, as they were soon abandoned by dentists everywhere, not being practical. Patients complained of a rancid condition of these dentures when being worn

for a short time, owing to the porosity of the denture base compound, but not to any chemical change or decomposition.

All of the dentures inserted at that time had to be replaced by the old and reliable vulcanite material.

Celluloid is considered as a mechanical mixture, but not a chemical mixture — a compound composed in the proportions of about 100 parts pyroxylin, 40 parts camphor, of zinc oxide 2 and of vermillion .06, which is as a coloring matter. Many new formulas of the celluloid compound have been developed during the last few years, each claiming superiority as to the quality of material for base forms in making artificial dentures advertising under special trade names, such as Resovin, Hecolite, Bakelite, and Porcelite, and many others. All of these produce a beautiful appearance when finished, and when all the surfaces are smoothly polished with a high glaze, which equally applies to vulcanite, will help to prevent any absorption of moisture.

Artificial denture on the rubber base has been used for a great many years with remarkable success, and generally speaking, is the most practical denture base we have for prosthetic work whether it be for full or partial dentures. With a better understanding in recent years by dental makers of rubber considerable improvement has been brought about and with a better knowledge in the technique of using them, and also with an accurate temperature which the rubber is subjected to in the process of vulcanization excellent prosthetic work has been accomplished.

There has been much improvement in the recent makes of rubber in eliminating any irritating effect upon the mucous membrane, as was so frequently seen after

patients had worn dentures made of the old makes of rubber.

It was through the efforts of Dr. Lewis, of the Buffalo Dental Mfg. Company, over twenty years ago, this firm on the suggestion of the writer brought out a multiple heat electric vulcanizer heater which accurately controls and retains a definite temperature in the vulcanizing process, whereby producing remarkable elasticity and strength to the rubber base

denture.

Since the revival of the new makes of celluloid compound material and their application for the construction of dental base-plates very little has been written in our dental journals, as to the merits of these so-called new compounds, and it would be interesting to learn from those who are in a position to speak relative to the real value and future prospect of this material as a base for denture construction.

In the County Court of Vancouver

REX
vs.
SIMMONS

EXTRACTS FROM
REASONS FOR JUDGMENT
OF HIS HONOUR JUDGE HARPER

"This is an appeal from a summary conviction. The accused, a member of the College of Dental Surgeons of British Columbia, was on the 8th of March, 1934, convicted by Deputy Police Magistrate McQueen in that he did, unlawfully at the City of Vancouver, between the 12th and 30th days of December, 1933, assist the School of Mechanical Dentistry Limited, to carry on the practice of the profession of dentistry, viz., to take impressions of the gums or jaws, and to fit thereto artificial dentures for gain contrary to Section 71 of the Dentistry Act, R.S.B.C. Cap. 66.

"The appeal is on the ground that the evidence does not disclose any assistance by the accused; that, at the most the evidence only suggests that, owing to the location of

Dr. Simmons' office, he was able to extend his professional practice, through the fact that the services of a qualified dentist were needed to take the impressions of the gums or jaws of persons doing business with the School of Mechanical Dentistry Limited. It was submitted that though the operations of this corporation did tend in a financial sense to increase the income of Dr. Simmons, the most that could be said was that there was co-operation.

"The School of Dentistry Limited was convicted under Section 71 of the Dentistry Act of carrying on the practice of dentistry and no appeal has been taken therefrom. The taking of an impression of the

jaw is made by the Dentistry Act one of the acts which shall be deemed to be practising the profession of dentistry.

"Each of the witnesses came to do business with the School of Dentistry; in each case the proposal was made by an employee of this corporation to have an act of dentistry performed, to facilitate the sale of its product, and in each case as a part of that sale, the services of the appellant were procured.

"'Assisting' has been defined in the case of a charge of assisting an alien enemy to leave Canada, as doing 'any act furthering to that intention.' *Rex v. Oma* 25 D.L.R. 670.

"The intention of the Legislature as expressed by Sec. 71 of the Dentistry Act is to prevent corpor-

ations invading the field of a profession involving personal and confidential relationships. To effectuate this intention, not only is the corporation liable to a penalty, but any qualified dentist who takes any part in helping it to perform an act of Dentistry is also brought within the ambit of this section.

"My conclusion on the facts here is that the School of Mechanical Dentistry Limited, to promote and extend the sale of these plates, did by the assistance and help of the appellant, commit an act of the practice of dentistry. As a participant in the mode of operation of this Company the appellant brought himself within the meaning of Sec. 71. The appeal is dismissed."

"A. M. HARPER,"

"J. C. C."

"8th May, 1934."

District Seven Dentists' Sports' Day will be held at the Galt Golf Club, Galt-Preston Highway, on Wednesday, July 18th. Sports will include golfing, softball, lawn bowling, etc.

Dinner at 7 p.m. (Standard Time) after which prizes will be presented by the donors and guests. Golfing will commence at 1 o'clock (Standard Time). A full list of prizes is offered. Golfers (Green fees), \$1.50. Dinner, \$1.00.

The counties of Haldimand, Norfolk, Brant, Oxford, Waterloo and Wellington comprise this district. All dentists are cordially invited to attend.

Practised as Dentist

G. Burnett, a dental mechanic, was charged with breach of the Dental Act. He allegedly practised as a dental surgeon without being a member of the Royal College of Dental Surgeons.

"He had a license in England," pleaded defence counsel.

"Well, he can go back there and practise if he wants to," replied the bench.

Pleading guilty to the charge, Burnett was fined \$100 and costs or 30 days.

DENTAL SOCIETIES

Re Toronto Dental Academy Indigent Clinic

Dear Doctor:

During the past two years the Academy Council has been studying the problem of Dentistry for indigent adults. In reporting the achievement of the Dental Profession, from January to June 1933, to Mayor Stewart, and through him to the City Council, it was pointed out that the onus of Dental Relief did not rest entirely upon us; rather it was a mutual problem which should be solved co-operatively between the Profession of Dentistry and Civic Authorities. The attitude of the mayor has been sympathetic with this view from the beginning.

There has been considerable correspondence and a great many interviews with Civic Officials, concerning a proper course to be followed. Finally, a plan was submitted which received approval of City Council on April 30th, last. This plan was passed unanimously by the Academy Council; then presented to a special meeting of the Academy, called for the purpose of discussion. This meeting endorsed the plan and requested that a letter be written to the profession outlining its various features which are as follows:

1. Any indigent person requiring Dental Service may be recommended to the Clinic by the Department of Welfare.
2. The Clinic to be housed and equipped entirely at the city's expense.
3. A full-time Dentist and Dental Nurse to be placed on the payroll of the city and to be in charge of the Clinic.
4. The conduct of the Clinic to be supervised by a committee upon which City and Academy are equally represented.
5. The Clinic to consist of two operating units, one to be used by the dentist in charge, the other for the use of volunteer assistance from the profession.
6. Patients requiring Denture Service are to be referred to private offices of dentists who are willing to accept such cases. The City will pay \$10.00 per denture to the dentist to assist in defraying his expenses in connection with the service. Special arrangements as to teeth and laboratory charges will be made, but in all cases these must be paid by the dentist out of the \$10.00 paid him.
7. The City and Academy agree to limit the number of dentures to 25 in any one month.
8. The Academy agrees to supply volunteers from the profession to keep one chair in the Clinic in continuous operation, except during the months of July and August.

In view of the splendid support given the Academy Clinic last year, your council feels that the profession will again respond to assist in this work. May I appeal to you to send the enclosed letter, properly filled in, to our Secretary, Dr. S. Stuart Crouch, at your earliest convenience. Remember the Clinic will be in operation in a few days and we need your help and co-operation to make it a success.

Sincerely yours,
FRANK MARTIN,
President.

Vancouver Dental Society

Business and pleasure made the May meeting of the Vancouver Dental Society a success. The New Westminster members of the society are to be congratulated on the arrangements for this meeting. Held at the Vancouver Golf and Country Club, New Westminster. The afternoon was given over to golf, and with members of The Mount Baker Dental Society, of the State of Washington, made the meeting an added success.

Dr. Emery Jones introduced the speaker of the evening in the person of the Acting-Premier, the Hon. A. Wells Gray, Minister of Lands and Municipalities. "Wells," as he is known to all in New Westminster, is one of the famous Salmon-Bellies Lacrosse players and therefore an idol of that city. To British Columbians, a worthy executive, with ability of getting things done. His address covered many personal experiences during his 21 years as Mayor of that city and the economic problems of the British Columbia Government. "The recent delegation to Ottawa, headed by Premier Pattullo," he said, "was not a begging expedition, but went seeking justice from the Federal Government." In support of this he quoted: "That during the five year period from 1926 to 1931, \$108,000,000 had been paid to Ottawa by this province, and only \$3,700,000 spent here by the Federal Government." "It is about time that the Federal Government found out that better terms are coming to B. C."

President Dr. Ross of the Mount Baker Dental Society and Dr. G. Ellsperman responded to greetings of the society, and in turn, invited our members to their May Clinic at Bellingham, Wash.

Dr. William Miller, the retiring president, thanked the officers, committee chairmen, and the mem-

bers for their co-operation during his term of office. In moving a vote of thanks to Dr. Miller. A new spirit of optimism has become noticeable amongst the members due to his sincerity and his able manner in fulfilling the office of president for the good of the society. A young man, who has a brilliant future before him, not only in the dental world but in the community at large.

The new officers installed for the next term were:

President—Dr. George Darts

President-Elect — Dr. Douglas Sutherland

Sec.-Treas.—Dr. Robert Stewart

Board of Censors—Drs. Harlem Noble, Harry Grant, Frank Bezeau and Murray McDougall.

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Toronto, May 21st, 1934.

Dr. S. Stuart Crouch,

Sec'y. Academy of Dentistry,
Toronto.

Dear Dr. Crouch:

I shall be glad to support the Academy in its programme of Dental Service to the indigent of Toronto. You can count on my giving.....half days voluntary service each month if needed. I will also accept.....denture cases per month as referred to me by the Clinic Officer, for which I expect to receive \$10.00 per denture. I understand, however, out of this amount I must pay for the teeth and laboratory charges, and all cost in connection with this service.

Yours very truly,

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Design of Artificial Teeth Considered by Dr. F. A. French

The old idea of basing the study of false teeth on that of natural teeth, when the function of each was entirely different, has gone by the board, and recent experiments

must be designed in a form of their own if their function is to be successful, declared Dr. Felix A. French, of Ottawa, speaking before the annual clinic of the Montreal Study Club of Dental Technicians, in the Mount Royal Hotel.

Dr. French, who is one of the foremost dental authorities on the continent, and who was one of the men who changed the whole plan of plate and false teeth design, stated that the old idea had been wrong from the start.

"The form of artificial teeth was based on the form of natural teeth," he explained. "But the functions were entirely different. Thus, artificial teeth were made to function in a way that was absolutely contrary to natural laws."

"What we have done," he said, "is to change the form and design of artificial teeth to harmonize with their function in the mouth. In other words, we are assisting nature instead of hindering it."

Several other speakers gave talks of a technical nature at the clinic. The chair was taken by A. C. Orr, president of the Montreal Study Club of Dental Technicians. Close to 200 members attended. The meeting closed with a dinner.



Mount Royal Dental Society

Dr. L. S. Eidinger was appointed president of the Mount Royal Dental Society. Other officers named were: vice-president, Dr. A. L. Scherzer; secretary, Dr. H. Israel; assistant secretary, Dr. J. Persk; treasurer, Dr. J. Pollack; librarian, Dr. I. N. Pesner; directors, Drs. E. Kutzman, M. Kolber, F. Mendel, L. Epstein, D. Muhlstock and B. L. Hyams. Dr. Hyams, retiring president, was chairman of the meeting.

Dr. Fiske President-elect of Orthodontist Body

Experiments demonstrating the value of Vitamin B and D as a preventive of dental caries were shown by Dr. Alan Brown at the Sick Children's Hospital to the Great Lakes Association of Orthodontists. The association completed a two-day convention at the Royal York Hotel recently.

Dr. G. Vernon Fiske of Toronto was nominated president-elect of the association, and Dr. Ollie White of Detroit, elected president. Dr. Ralph Howarth, Cleveland, was elected secretary-treasurer, and Dr. Fred Casto, Cleveland, was elected to the board of censors.



Takes Time Off for Own Tooth

White Plains, N. Y.—Dr. George G. Starke had a patient in the chair and twinging ache in one of his teeth. Finding the pain intolerable, he stepped into an adjoining room, injected an anesthetic into his gum and with a forceps extracted the offending tooth.



A Test of the Validity of a Dental Act

One Hunt accused of practising dentistry without a licence in Florida succeeded in a plea that the Dental Act of that State was unconstitutional. The State contested this decision before the Supreme Court. Hunt contended that the constitution of the State was violated in that the subject of the Act was not stated briefly and that the proviso stating "one should be a graduate of an accredited dental college as defined by the National Association of dental examiners" was an unconstitutional delegation

of authority to this National Association of dental examiners.

The Supreme Court of Florida could not agree to these pleadings and Hunt was again remanded to the custody of the sheriff.—*L. McL.*

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Kent Association

The regular monthly meeting of the Kent County Dental Association was held in the New Chatham Hotel on Thursday, January 25th. The clinician was Dr. Walter C. McBride, of Detroit, whose subject at the afternoon session was "Operative Procedures in Dentistry for Children". Dinner was served at 6.30, after which Dr. McBride spoke on "The Business Aspect of Children's Dentistry". The meeting proved to be a most interesting and helpful one and much appreciated by the large number of members who were present.

Dr. Murray Campbell, president and Dr. C. E. Higley, secretary-treasurer, were appointed as Local Dental Health Committee.

It was decided to form study groups among the members of the Association, and this will be undertaken in the near future.

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Gold Scrap Law

How to comply with the gold ingot clause of the new regulations for the receipt of gold bullion at the Royal Mint at Ottawa is the problem facing gold refiners of Toronto who met today to discuss the new ban on melted gold scrap and bullion.

"The only way we can assay gold that comes to us in the form of filings is to melt it down and then cast it as an ingot," F. H. Bevan, agent here for the big English smelting firm of Lees and Sanders, Ltd., of Birmingham, told The

Star. "By these new regulations we are forbidden to send out any gold in the form of bricks. How we are going to get around this difficulty remains to be seen."

The regulations, effective Monday next, are meant to prevent illegitimate trafficking in gold. According to Mr. Bevan, one of the biggest leakages is thieving in the mines. Gold is slowly accumulated by thieves and then cast in ingots, to prevent identification.

By these new regulations, old jewellery and dental scrap can only be accepted for purchase "if it has not been melted or otherwise treated to prevent its origin being readily recognized."

Gold buyers at jewellery stores are unanimous in the opinion the new regulations will not affect legitimate scrap gold buying.

J. M. Maciver, of Birks-Ellis-Ryrie, said the regulations were bound to come. "I have heard," he told The Star, "that illicit dealers have been making as much as 50 per cent. extra by melting down Canadian gold coins and smuggling them into the United States."

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Convictions for Offences Against the Dental Act During the Past Year in Ontario

Stanley Plain, Hamilton, Ont., second offence, \$215; George Burnett, Toronto, first offence, \$100; J. Erskin, Toronto, first offence, \$100; Geo. Machie, Toronto, fourth offence, \$500.

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Dental Results at McGill

Dentistry at McGill University has the distinction of being the first faculty this spring to issue an honors and pass list for a complete year. The results for second year dentistry were issued from the faculty office recently.

The prize for the highest stand-

ing in the year goes to Nathan E. Gropper, of Saskatoon, Sask. Honors are as follows: General pathology, Guilboard, T. Ivan, Montreal; bio-chemistry, Hyams, I., Montreal; pharmacology, Hyams, I., Montreal, and Gropper, N. F., Saskatoon; orthodontia technic, Mahoney, M. F., Burlington, Vermont; operative technic, Mahoney, M. F., Burlington, Vermont, and Gropper, N. F., Saskatoon.

Pass list in order of merit: Gropper, N. F., Saskatoon, Sask.; Mahoney, M. F., Burlington, Vermont; Hyams, I., Montreal; Mancuso, A. J., Rochester, N.Y.

The following have completed the courses as noted: Sample, T. C., Moores, N.Y., general pathology, pharmacology, prosthetic technic, crown and bridge technic, orthodontia technic, operative technic; Shuirman, Gilbert, Outremont, biochemistry, bacteriology; Guilboard, T. Ivan, Montreal, general pathology, biochemistry, pharmacology, prosthetic technic, crown and bridge technic, orthodontia technic, operative technic.



His Excellency Attends Dental Convention

His Excellency the Earl of Bessborough, Governor-General of Canada, paid striking tribute to the contributions of dental science to the well-being of Canada, when he attended the closing session of the Ontario Dental Association convention in the Royal York Hotel.

The Canadian public owed a great debt to dental research for its advancement of preventive dentistry, he said, and pledged the practicing members of the profession to the task of interpreting the results of this research, "for those who can use it in protection of themselves and in the care of others."

Dr. W. H. Woodrow, Brockville,

was elected president for the ensuing year, succeeding Dr. C. Angus Kennedy, of Toronto. Dr. Woodrow is a member of the House of Delegates to the Canadian Dental Association, and a member of the Board of the Royal College of Dental Surgeons. Dr. Edgar W. Paul, of Toronto, was chosen president-elect, relinquishing the office of archivist in favor of Dr. R. D. Thornton, also of this city. Dr. Fred J. Conboy, Toronto, was re-elected secretary-treasurer.

During the Governor-General's visit, Dr. Harold K. Box submitted a progress report on research being conducted at the University of Toronto, for gum tests that will indicate the presence of pus cells in the spaces between the gums and the teeth, which are believed to harbor the incipient pyorrhea until it has developed and spread through the mouth.

Dr. R. C. Willett, Peoria, Ill., presented a paper at the opening of the afternoon session in which he traced the progress of child dentistry from the orthodontist's point of view. He also outlined to the convention the preparation of two silver alloys which, he stated, could be used as satisfactory substitutes for gold. The 60 per cent. increase in dental gold last year had much to do with the mounting costs of dental services, he said, and he advised that dentistry totally desert the "gold standard". The alloys he suggested were a combination of silver and copper, a cheap and wholly satisfactory alloy which could be produced in the dentist's own office. The other was a combination of palladium, gold and silver.

Other papers given before yesterday's sessions were read by Dr. J. N. Stewart, of Hamilton; Dr. F. E. Harris and Dr. T. Cowling, both of Toronto.

The full slate of officers elected

for the current year was as follows: Board of Governors: Dr. I. W. Hamilton, Ottawa; Dr. R. McCutcheon, Highgate; Dr. E. C. Veitch, Toronto; Dr. R. S. Woollatt, Toronto; Dr. J. N. Stewart, Hamilton, and Dr. J. C. A. Crawford, Haileybury. Public Dental Health Committee (all re-elected): Drs. F. C. Husband, J. S. Lapp, M. A. Ross Thomas, A. W. Ellis and R. D. Thornton, all of Toronto. Committee on Benevolence (all re-elected): Drs. C. Angus Kennedy, Toronto; V. L. Heath, Woodstock, and Frank L. Henry, Oshawa.



Moncton Dentists Elect Officers

Moncton, May 30—(Special).—Dr. V. E. Hudson was named president of the Moncton Dental Society last night, with Dr. F. E. Burden vice-president and Dr. A. H. LeBlanc secretary. It was decided by these dentists to close their offices Saturday afternoons during the months of June, July and August. Subjects to be taken up at the annual meeting of the New Brunswick society at Sussex in August were discussed.



Dr. P. J. Gallagher

At a meeting of the Winnipeg Dental Society, held Wednesday night in the clubrooms of the Medical Arts building, Dr. Gallagher was elected president of the association. Other officers named at the meeting were: Dr. P. Hutzulak, vice-president; Dr. W. F. McKenzie, secretary-treasurer, and S. H. Churchill and Dr. Roy D. Kerr, members of the executive committee.



Dental Auxiliary

The annual meeting of the Ladies' Dental Auxiliary was held

in Eaton's Round Room. The retiring president, Mrs. J. Bothwell, was presented with a basket of flowers. The election of officers resulted as follows: President, Mrs. Ross Thomas; first vice-president, Mrs. E. C. Veitch; second vice-president, Mrs. J. W. McDonald; treasurer, Mrs. Russell Hoffman; secretary, Mrs. D. E. Staton. Five councillors, Mrs. Emerson McNeil, Mrs. L. Dew Brook, Mrs. H. E. Watson, Mrs. S. A. Melburn and Mrs. E. A. Grant. Dr. E. Guest gave an interesting talk on education.



At the request of Welfare Commissioner Curry, Windsor City Council passed a resolution supporting the Essex County Dental Association in a request to the government for more adequate payment for services to people on welfare.

Mr. Curry explained that in Windsor \$4,000 a month is being paid to medical doctors for their services, while the dentists are receiving but \$3,000 a month in the entire province. In many instances, he said, a patient will be sent by the welfare department to a physician, who will find on examination that what is required to cure him is dental attention. The physician is paid for giving the advice, while the dentist receives little or nothing for doing his work.

Some 400,000 persons have been given treatment in the province, the dental association said in a letter, and against this the \$3,000 a month fund was obviously inadequate.



Ask Uniform Standard For Dental Licenses

Seeking to make uniform throughout Canada requirements

for dental licence, members of the Dominion Dental Council met in the Royal York Hotel.

The council continued negotiations toward having Quebec and British Columbia dentists pass the standard regulations of the Dominion, and dealt with plans to prevent practise by illegal practitioners. Members are: President, Dr. L. T. Allen, Lethbridge; secretary, Dr. W. D. Cowan, Regina; vice-president, Dr. J. M. Magee, St. John, N.B.; Dr. A. D. Mason, Toronto; Dr. H. A. Croll, Souris, Man.; Dr. G. K. Thomson, Halifax; Dr. A. J. Brett, Regina, and Dr. J. H. Ayres, Charlottetown.

Graduates in Dentistry of Dalhousie University

Pass list and prize awards in the faculty of dentistry at Dalhousie have been released and show that fifteen candidates have been successful in obtaining their degrees. The W. C. Oxner prize for crown and bridge work by fourth year students was won by Norman Raymond Brody. Other prizes are as follows:

Fourth Year, Frank Woodbury Memorial Prizes—Thesis, James Andrew MacLeod; Infirmary, Sol Kirschenbaum; Laboratory Technic, Norman Raymond Brody.

Third Year, N.S. Dental Association Prizes—First prize, Joseph Cohen; second prize, Lloyd Brown Layton.

First Year, the Charles Bell Prizes—First prize, Philip Maurice Stein.

The following have fulfilled all the requirements for the degree of Doctor of Dental Surgery—Barry, Robert Scannell; Bass, Joseph; Bloomenfeld, Julius Edward; Brody, Moe Henry; Brody, Norman Raymond; Brown, Abraham; Campbell, James Erskine; Davis, Harry; Eckstein, Philip; Goldstein,

Meyer Norman; Kavalier, Leon; Kirschenbaum, Sol; Karjewski, Thaddeus; Kushel, Harley Garson; MacLeod, James Andrew.

His Excellency the Governor-General attended a session of the convention of the Canadian and Ontario Dental Convention held in the Royal York May 22.

On Monday evening, May 14th, the annual meeting and dinner of the Regina Dental Nurses' Association was held in the Hotel Saskatchewan, thus finishing up a very interesting year. Mixed bouquets of tulips and larkspur were used in the table decorations. The place-cards, designed and painted by our President, added interest to the table. The favors to the guests were silver salad forks. The dinner was followed by the election of officers after which four tables of bridge were in play, the prize, a very pretty dresser lamp, was won by Mrs. Evelyn Horne, with the consolation prize going to Miss Helen Battell.

The following officers were elected:

President—Mrs. Olive Blake.

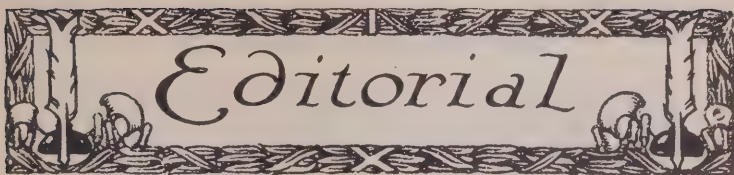
Vice-President—Miss Geraldine Burbidge.

Secretary-Treasurer—Miss Jean Graham.

Miss S. Leach, Miss Eve Dar-rach, Miss M. Bell and Mrs. Nora Scott were elected conveners of various committees.

—A. J. COWAN, Secretary.

The third annual meeting of the American Association for the Advancement of Oral Diagnosis will be held in the Colonial Room of the Hotel Lowry in St. Paul, Minn., on Monday, August 6th, 1934.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

ASSOCIATE EDITORS

- QUEBEC—Eudore Debeau, L.D.S., D.D.S., Montreal.
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TORONTO, JUNE, 1934

NO. 6

Can a University Refuse to Accept a Student Because He Has Failed at Examinations?

There is a general idea among educational institutions that their regulations are a law unto themselves while as a matter of fact such regulations come under the state regulations as in all other matters, while on the other hand if an educational institution provides part or all of the cost of an education then they have control in proportion to the amount supplied. It becomes a question whether a state university can refuse to accept students who fail to pass their grades. It may be argued that a failed candidate is in the way and occupies the time of teachers which might better be spent in teaching a more successful candidate.

DENTAL NOTES

Dentists Honor Dr. Joseph Nolin

Fifty years of professional practice as a dentist were happily climaxed last evening when several hundred members of La Societe des Chirugiens Dentistes de Langue Française de l'Amerique du Nord, now in convention, paid tribute to Dr. Joseph Nolin, vice-dean of the faculty of dentistry of the University of Montreal, at the Cercle Universitaire. The convention, which was officially opened yesterday morning, was continued today, and will come to a close tomorrow with conferences, lectures and clinics.

The first speaker was Dr. Eudore Dubeau, dean of the faculty, who recognized in Dr. Nolin a real worker for the progress of science and gave a brief sketch of the French-speaking dental school. Edouard Montpetit, general secretary of the University of Montreal, complimented Dr. Nolin in a most humorous fashion.

Receives Bust

Dr. Nolin was then presented with a bust of himself by Jean Nolin on behalf of his family. The bust will be installed in the offices of the faculty of dentistry. Among other speakers were Rene Turck, French consul-general in Canada.

Dr. Nolin recalled the first days of practice when there were about 70 dentists in the province. There were 50 English-speaking and the balance French-Canadians. This may be explained by the fact that dental schools were mostly English-speaking. Young French-Canadians received the necessary tuition by assisting a practitioner.

Dr. Nolin said that his work of

recent years had been devoted chiefly to the cure of mouth diseases resulting from bad teeth.

—•—

Graduates in Dentistry Addressed by Dr. Cody

Forty graduates of the Faculty of Dentistry, University of Toronto, attended the graduation banquet of the class of '34 in the Royal York Hotel, presided over by Dean Seccombe, and at which President H. J. Cody was the guest speaker. "I am inclined to believe that the schools of dentistry that will best serve this or any other country," said Dr. Cody, "will be those schools of dentistry that are integral parts of universities. The value of a professional Faculty of Dentistry, as distinguished from merely an independent professional school, lies in the fact that every faculty in a university carries on in a general educational environment, symptomatic of the universality of knowledge and the basic principle of a broad and liberal education upon which to build the superstructure of specific professional practice."

—•—

On May 21 a high tea and musicale was given by the Ontario Dental Nurses' and Assistants' Association in Eaton's Round Room in honor of the out-of-town delegates to the dental convention, which opens today. The guests will be received by the president, Miss Edith Brown, and the convener, Miss Ellen B. Tuck. The program will be provided by Miss Winnifred Melson, soloist; Miss Eva Randall, pianist, and Mrs. Ola McNaughton, violinist.



DR. W. H. WOODROW,

President,

Ontario Dental Society.

The Dental Nurses Course as Outlined by the Faculty of Dentistry, Toronto

Since the establishment in 1919 there has not been any drastic change in the extent of the course or the arrangement. We print the outline so that dentists may see what it embraces. We know of no other course so well adapted to the needs of young women.

The Dental Nurses' Course was established in 1919 by the Royal College of Dental Surgeons of Ontario for the purpose of training young women to act as assistants to dental practitioners. When the School of Dentistry was taken over by the University of Toronto in 1925 as the Faculty of Dentistry, at the request of the Royal College of Dental Surgeons of Ontario the University continued the Dental Nurses' Course.

A candidate enrolled in this course is registered as an occasional student of the University, but the Royal College of Dental Surgeons of Ontario awards the diploma upon satisfactory completion of the eight months' course in the Faculty, and of two months' service as dental assistant in the office of an approved ethical practitioner.

The candidate must present certificates of having completed at least Ontario Pass Matriculation or its equivalent. Application must be made upon the form provided, accompanied by photograph and testimonials of health and character, and be received at the Dean's office on or before August 20. An interview is desirable when possible. The class will be limited in number.

The Dental Nurses' Course will begin at 9 o'clock on September 17, by registration with the Secretary in the Dental Building, after which the Dean will meet the class in the Nurses' Lecture Room. All pupil-

nurses are registered upon the understanding that they are upon probation for the entire course, and that they will withdraw from it at any time upon request. Time lost by absence, due to illness or to any other cause, must be made up after the close of the regular session.

Miss L. A. Cameron, R.N., D.N., is Supervisor of Dental Nurses in Training.

By order of the Board of Governors, every candidate for admission must submit a certificate of successful vaccination with her application, or agree to submit such certificate within ten days after the opening of the session. Dr. Edith Gordon of the University Health Service will arrange for the vaccination of those who so desire.

Correspondence concerning the course should be addressed to The Dean, Faculty of Dentistry, 230 College Street, Toronto 2.

OUTLINE OF COURSE

BACTERIOLOGY (ELEMENTARY)

Miss W. C. Riddle, B.A.

A course of ten hours is given, embracing the value of sterilization and the examination of cultural material.

BOOKKEEPING

C. C. Rous, B.A.Sc.

The course deals with fundamentals underlying accounting. Legal tender, bills of exchange and routine commercial banking transactions are considered. The use of the journal and ledger is thoroughly gone into, the closing of the books explained, and the preparation of Revenue and Expenditure Statements and Balance Sheets taught.

CLINICAL PRACTICE

A. D. A. Mason, D.D.S.

In the Clinical Department the nurse is taught the practical application of the instruction given in the various courses; and is required to familiarize herself with

dental ceramics and gold inlay technique.

She is trained to receive patients, to take correct messages over the telephone, to assist the clinicians in the operative clinic room, and to assist the students with their various operations throughout the infirmary, under the supervision of the instructors in charge.

DENTAL ANATOMY

S. S. Crouch, D.D.S.

This subject is introduced by a short course of lectures illustrated by lantern slides. First, a brief description is given of the masticatory apparatus including, types of teeth, supporting structures and muscles of mastication. This is followed by studies in nomenclature; function, development, calcification, eruption, morphology, arch form and occlusion of the teeth. The harmony in shape and size of the teeth, arches and facial outline are illustrated.

About fifteen hours are spent in the laboratory in modelling in plasticine and in drawing and studying anatomical specimens, including skulls, extracted teeth, plaster tooth forms, etc.

DENTAL SURGERY ASSISTANCE

J. H. Johnson, D.D.S.

Miss L. A. Cameron, R.N., D.N.

The lectures include: general outline of procedure in the Dental Surgery Department; care of rooms and equipment; methods of sterilization; reception, preparation and care of patients; preparation of solutions, dressings and local anaesthetics; instruction in the manipulation of various types of nitrous-oxide machines, and special instructions in the care of patients who are recovering from the effects of an anaesthetic.

The practical work comprises the actual experience in assisting the clinicians and students in the

surgery where patients undergo operations daily.

DRUGS USED IN DENTAL PRACTICE

R. G. Ellis, D.D.S., B.Sc. (Dent.)

A course of Lectures on the physical properties of certain drugs, their use in dentistry, and the precautions necessary in handling them.

A laboratory course including the practice of compounding simple formulae, such as root filling materials, etc.

ETHICS AND ECONOMICS FOR DENTAL NURSES

F. J. Conboy, D.D.S.

The course in Ethics and Economics is comprised of lectures on the dental nurse's legal status and responsibility, the development of an attractive, harmonious personality, an efficient office system, including collecting accounts, banking and follow-up, and instruction in patient management.

FIRST AID AND HYGIENE

E. S. Ryerson, M.D., C.M.

G. C. Cameron, M.D., F.R.C.P. (C.)

First Aid

A course of five lectures is given, including the following subjects: principles of first aid, fractures, dislocations and sprains, wounds, haemorrhages, burns, frost-bites, foreign bodies in eye, ear and throat, insensibility and poisoning, artificial respiration.

Hygiene

A short course of lectures is given discussing general and personal hygiene, and principles in the control of communicable diseases.

OPERATIVE DENTISTRY ASSISTANCE

A. E. Webster, M.D., D.D.S.

This course embraces: dental office sanitation and disinfection; equipment and instruments, their classification, nomenclature, arrangement and care; preparation of filling materials for the teeth;

drugs and other supplies for use; methods of assisting at the chair; sterilization and aseptic handling of instruments, dressing and appliances; reception and preparation of patient for operation.

ORAL HYGIENE AND PUBLIC DENTAL SERVICE

Wallace Seccombe, D.D.S.

In this subject is studied the incidence of dental caries, causes of dental disease and methods of its prevention, the relation of diet and mastication to mouth health, and oral cleanliness. Social and hospital dental service, industrial dental clinics, school dental services and other forms of public dental service are discussed with the class during the course.

PROSTHETIC DENTISTRY ASSISTANCE AND LABORATORY SERVICE

Frank M. Lott, D.D.S., B.Sc.
(Dent.)

This course is confined to such phases of prosthetic dentistry as relate to the duties of a dental nurse. A brief survey of the science and practice of prosthetic dentistry is followed by instruction in selected details of practice, such as the care of the instruments and materials, and various phases of the construction of prosthetic restorations.

A laboratory course is provided of many exercises in simple casting and soldering, followed by a number of elementary prosthetic projects in vulcanite.

RADIOGRAPHY

S. M. Richardson, D.D.S.

This course includes both didactic and laboratory instruction in X-ray physics, X-ray machines and tubes, dangers and precautions, technique of taking and developing radiograms, dental office electrical appliances and their care.

TYPEWRITING

One hour a day throughout the course is set aside for instruction and practice in typewriting by the touch system.

Book Review

THE OPERATIVE STORY OF CLEFT PALATE. George Morris Dorrance, M.D., F.A.C.S. Professor of Maxillo-facial Surgery, The Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania; Surgeon to Saint Agnes Hospital and to the American Oncologic Hospital, Philadelphia. First Edition, 564 pages, with 534 illustrations. W. B. Saunders Company, Philadelphia and London, 1933.

THIS is a remarkable book, written by a remarkable man. Dr. Dorrance has reviewed the Cleft Palate literature since as early as 460-370 B.C., and a complete report of such is given in an excellent Bibliography. If he had done nothing more than complete this Bibliography, the book would be of immense value to anyone interested in Cleft Palate Work. In his text he gives credit to all and leaves to one's imagination what is the best operation. A careful review of these pages in our opinion would have a deciding influence over the free-lance surgeon who attempts an occasional case in what he may term an unusual method. We believe that if this book is read carefully very few surgeons will attempt the unusual operations, as this text by inference rules out many operations which have been tried and found unsuccessful.

The story in our mind resolves itself into various modifications of the Langenbeck operation and while a number of brilliant minds have

A noteworthy contribution

THE ABRASIVENESS OF DENTIFRICES

● The scientific facts presented in this brochure represent, we believe, a noteworthy contribution. The relative abrasiveness of all of the leading tooth pastes and powders is shown accurately and specifically. How wide a variation exists between the leading dentifrices is a matter of interest and concern to every member of the profession. The facts brought out in this research are being widely discussed in dental circles.

This booklet, prepared under the supervision of the Scientific Staff of the Research Laboratories of The Pepsodent Company, has been mailed to you. If you have not received your copy of this study, a post card will bring you one.

THE PEPSODENT CO.

TORONTO, ONTARIO

devised many variations, most of the surgeons of today are closely following the Langenbeck teachings. In the last few chapters he outlines what has been called recently the "Push-back operation". Here again he gives credit to a number of surgeons who advised this operation some time ago, but it was left quite largely to Dr. Dor-

rance to work the anatomy out, and he has done so in this most illuminating way, assisted by Dr. E. Shirazy.

We cannot speak too highly of this book and feel that it should be on the shelves of all Academy libraries and in the possession of surgeons interested in the repair of all palate defects.

With The Manufacturer

CLINICAL TREATMENT OF SYNCOPE

That the older, so-called, respiratory stimulants are extremely unreliable, when used therapeutically, seems to be without question.

Every day we are apt to be confronted with cases of syncope, shock or collapse and the associated cardiac arrhythmia and deficient respiration. These cases are not only troublesome and time consuming for the operator but are distressing to the patients themselves.

So disappointing were the results following the administration of strychnine for stimulation of the respiration and circulation that the use of the drug for these purposes has practically been discontinued. Amyl nitrate, brandy, whiskey, aromatic ammonia, camphor, and caffeine have also been used but have fallen short of supplying the best needs of the dental surgeon in administering treatment.

Somewhat over a year ago, my interest was aroused in a new synthetic preparation, through the striking results observed following its use in a patient suffering from shock. The spectacular action produced in this case led me to study this substance more carefully and to utilize it more frequently; always, I may say, with distinct satisfaction.

The preparation in question is

marketed under the trade name, Coramine, and is chemically, a twenty-five per cent. aqueous solution of pyridinebetacarboxylic acid diethylamide, available in forms for either oral administration or hypodermic injection.

Reports already published on this preparation show that Coramine stimulates the whole central nervous system, but that the most striking result of its action is the improved depth and volume of respiration; the blood pressure and pulse improve rapidly, while cyanosis and stasis diminish.

We have used Coramine now for over a year and as a routine, we give 30 to 60 drops in a little water; it is practically tasteless and this dose may be repeated as often as is necessary, or double this amount may be given, should the case be extreme.

Clinically, what has impressed us most, is the comfort afforded the patient; a quieting effect is produced; the patient feels relief from anxiety almost instantly and the rhythm of the heart beat is almost immediately regularized; dyspnoea and cyanosis disappear rapidly.

In cases of doubt as to the condition of the patient's heart, it is advisable to give it preoperatively.

(Sgd.) A. I. PALMER, D.D.S.,
220 Davenport Road,
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*Yours is to cure dental ills
Ours is to keep teeth clean*

Colgate's never has, and never will, attempt to infringe upon your work, doctor. You have a job to do which is distinctly apart from ours.

Ever since Colgate's has been in business its one claim has been . . . "Colgate's can only clean teeth." We recognize that when a toothpaste claims, either by implication or direct statement, to cure dental ills, it is overstepping the ethics of both our profession and yours.

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21c per tube
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RIBBON DENTAL CREAM

OBITUARY

Dr. George O. Hannah Came to Saint John Before Great Fire

Dr. George O. Hannah, well-known Saint John dentist, died at his home, 151 King Street East.

He had practiced dentistry for fifty-five years in this city up to four years ago when he retired. Dr. Hannah was born in St. Stephen in 1852. He graduated from the Philadelphia Dental College and came to Saint John a few years before the Saint John fire of 1877.

Following the fire, he moved his office from Germain Street to No. 1 Coburg Street, and up to the time he retired conducted his practice there.

He was among those honored in election to honorary membership in the Canadian Dental Association at a meeting in Toronto of that

body in conjunction with the British and Ontario Dental Association in 1932. Dr. Hannah had received a similar honor from the New Brunswick Dental Association which elected him an honorary member when he retired.

Dr. Hannah had been an elder of St. David's Church since 1905.

Besides his wife, who was formerly Miss Mary A. Graham, he is survived by three daughters, Mrs. H. H. LeDrew, of Guelph, Ont.; Mrs. Alexander Turner, at home, and Miss Helen C. Hannah, Montreal.

EXECUTOR'S SALE

Complete dental X-ray equipment and established business at Winnipeg, Manitoba. Only business in city carrying on dental X-ray work exclusively. Patronized by large number of dentists. For further information write E. F. Haffner, Esq., K.C., Victory Building, Winnipeg.

BUSINESS OPPORTUNITY--

For men who know how to sell. We want to develop a staff of live, energetic men with selling experience to represent three leading Canadian publications. It is spare-time work we offer. No interference with your regular occupation. No investment required—we supply all materials required. Real good commission and bonus arrangement for producers. Write Box 21, care of Dominion Dental Journal, 73 Richmond W., Toronto.

FOR SALE—Dental Office Equipment in first-class condition with good-will of practice, in Ottawa, Ont. Owner wishes to retire. For particulars address Box 113, Dominion Dental Journal, 73 Richmond St. W., Toronto.

DENTAL MECHANIC with three years' experience on plate work, desires position with opportunity to learn, small salary accepted. A. Duddridge, 1080 Trafalgar St., London, Ontario.

DENTAL PRACTICE AND EQUIPMENT FOR SALE—In Saskatchewan near Manitoba boundary, district has never had crop failure, owner has been in practice here for forty-five years, wishes to retire. English speaking, good town, large territory, office fully equipped. Electric appliances. Apply Dominion Dental Journal, Box 114, 73 Richmond West, Toronto.

OPERATING CABINET, foot lathe, porcelain crowns S.S.W. 150-form crown outfit, besides quite a number of the usual instruments and appliances. Write or call on W. R. Wilkinson, 36 King St. W., Kitchener, Ont.

ORIGINAL CONTRIBUTIONS

A 100th Anniversary

Outline of Address Given
in Toronto, June 18th, 1934

By *Arthur H. Merritt, D.D.S.*

In December, 1934, there is being celebrated in the City of New York an event that marked an epoch in the history of dentistry—the one hundredth anniversary of the organization of the first Dental Society in America. It may be said to have been one of the first steps that was taken in the creation of a profession out of the unorganized groups then engaged in the practice of dentistry. It is difficult for us, a hundred years later to realize the conditions under which those early pioneers carried on. In 1820, only fourteen years before the occurrence of the event to be celebrated next December, it has been said that there were only about one hundred dentists in the United States and Canada. Many of these were itinerants who practiced their art between Montreal and New Orleans. Some of them were medically educated, acquiring their knowledge of the art of dentistry through a brief preceptorship in the office of some practitioner of that day. Many of them had no other training.

It was only natural that some steps should be taken by these forward looking pioneers toward a more efficient method of education, and so, only five years later, the trustees of the University of Maryland were petitioned to include a

chair of dentistry in the medical curriculum of that University. This request was refused, ostensibly on the ground that dentistry had no relation to medicine, but in reality, because a member of the Board of Trustees entertained a violent dislike for one of the petitioners.

And thus is seen how so small a thing as personal animosity could change the whole educational course of a profession. Under these circumstances they did the only thing that was left them to do, namely, the creation of their own educational system, and so, in 1840, only six years after the organization of that first Dental Society, the second great step was taken in the graduation of the first class in dentistry—an event which will be celebrated six years hence.

Great progress has been made in the one hundred years that have since elapsed. Dental education has become an important feature in many of our great universities. The art of dentistry has reached such perfection on this continent that today American dentistry (using the word American in its broadest sense) has become the synonym for excellence throughout the civilized world. It is a progress of which any dentist may well feel proud.

Nevertheless, I sometimes wonder if with all our boasted progress,

we of the present are measuring up to the responsibilities which so clearly rest upon us. Are we as a profession rendering the service which the public has a right to expect of us, or are we so intent in perfecting the art of dentistry that we have overlooked that which is more important—the scientific and preventive side of our work? Frankly, I am afraid we have. As members of the International Association for Dental Research (as I understand many of you are) I wish to commend you for the steps which you are taking to correct this deficiency.

The organization of this Association marks another great milestone in the evolution of dentistry. It was my privilege to have been present at the birth of the Association when the New York section was formed by Dr. Gies. It was there that he unfolded his plans for a broader and more scientific dentistry, and set in motion those forces which have made of it a world-wide organization. The debt which we owe to this man, who is neither a dentist or a physician, can never be repaid. And as one who has known him for more than a quarter of a century; who has served with him on many committees, I want here to publicly proclaim my faith in his vision and to pay tribute to his unselfish devotion to the highest professional ideals. He has done much to encourage scientific research in dentistry.

Prevention, likewise, has lagged behind in the forward march of our profession. Too much stress has been laid on curative procedures and too little on preventive. As a profession we have too often waited until the horse was stolen before locking the stable door. And in doing this we have failed to render that service which it is so obviously our duty to give. For it

can be said without fear of contradiction that the problems confronting the dental profession can never be solved by our present inadequate measures. There is a higher service than the cure of disease and that is its prevention.

And lastly, we need to mix more idealism with our work—to think less of profits and more of service. In no way could this be better expressed than in a brief editorial appearing in the June number of the *Journal of the American Dental Association* entitled "The Need of the Hour".

"The greatest need of the hour in dentistry is not so much the consummation of a better technique — better fillings, inlays, crowns, bridges or dentures. The fundamental need is to save the soul of dentistry, to preserve the ideals and the ethics of our profession, to stand four square to the world in the establishment of those principles that gave us professional status at the beginning, to prove the faith that is in us for the maintenance of a high ethical concept that shall create a sharp distinction between our policies as a profession and the practice of the market place.

"The worship of Mammon has no part in the scheme of real professional life. The exaltation of an ethical faith, the consecration of our energies to the poor and rich alike, the sacrifice of our comfort for the welfare of others—these things are the need of the hour in our profession. All else will be added unto us if we but stand fast, and proclaim our conviction before the world."

And this is true, for it may be said of a profession, as was once said of a great nation, "Where there is no vision, the people perish."

Receding Chins

By Dr. T. Wingate Todd, M.D.
Cleveland, Ohio.

The old prejudice against receding chins has some basis on scientific fact after all. If you don't get enough lime in your blood early in life, according to Dr. T. Wingate Todd, fellow of the Royal College of Surgeons and professor of anatomy at Western Reserve University, Cleveland, the first place it will be noticeable is in a deficient jaw and gums, he told the Canadian Dental Association today.

If a child early shows signs of being ill-tempered and suffering from chronic stomach trouble, you may look for the unbeautiful mouth and disappearing chin in later life, according to this specialist.

He amplified his theory with lantern slides, showing the increasing deficiency of lime content in children's bones, with photographs of babies up to a year old "Just because the mother thinks the child looks all right is no sign that it is," he commented. Showing a picture of a child of three months that looked perfectly healthy, he revealed that calcium deficiency was already at work to reduce the child's chin and gums. "This child suffered from continual stomach complaint," he added, "but the mother wouldn't listen to my diagnosis about lime deficiency."

Afterwards, showing a picture of the same child at 12 months, he pointed out that signs of deficient nutrition were already apparent. "You can now see," he told the assembled dentists, "that this child has grown into a nasty, cantankerous, little monkey. You can see his horrid disposition in his face despite the fact that his mother thought he had the sweetest face in the world. This child is already a behavior problem."

Sheep that had their lime-supplying thyroid gland extracted grew only half the size and with buck teeth and a cutaway chin, the doctor said. "If you don't want your child to be a chinless wonder, see that both mother and baby get enough lime in their system to keep the jaw from shrinking," urged Dr. Todd.

Must Study Physical Age

"We are never going to get a solution of the treatment of the problem of malnutrition until we have more analyses of the child's growing up process," stated Doctor Todd.

He cited the case of a girl who had attained maturity at 12 and pointed out that after the coming of adolescence bodily growth tended to be retarded, while maturity of thought increased very rapidly. "We should always take cognizance of the physical age regardless of the age in years," he added. "How foolish it is to treat it otherwise, as we so often do."

He also stressed the necessity of looking after mothers after the birth of a child. "We all love the picture of the Madonna," he stated. "But we do not love to linger on it or look at it too much. Why? Because of the drawn character of the cheeks, the lack of lustre in the eyes. This tells the story of maternal suffering."

He pointed out that the only way to tackle this problem of demineralized people, characteristic of infancy, adolescence and maternity, was to use the X-ray. "This deficiency in lime content must be corrected by right feeding in the early stages," he said.

A Course of Study In Dentistry

By L. E. Blauch, Ph.D., Executive
Secretary, Curriculum Survey
Committee, American Association
of Dental Schools.

The American Association of Dental Schools is bringing to completion a three-year curriculum study which is likely to prove an important landmark in dental education. The major outcomes of this project are a suggested undergraduate course of study in dentistry and a statement of general principles and plans on which dental educators can co-operate in mutual understanding.

The need for a thorough study of the dental curriculum had become apparent to a number of leading dental educators several years ago. The field of dentistry and its responsibilities had in the last generation undergone a remarkable expansion. Dentistry in the past consisted principally of restorative services, and dental education was aimed primarily at developing in the students proficiency in providing dental restorations for patients. Owing to important clinical investigations and research studies made during the past quarter of a century the emphasis in dentistry has been undergoing a marked change. It has been learned that certain common disorders of the teeth may produce serious, sometimes fatal, ailments in other parts of the body and that superficially perfect dental service, judged by standards of mechanics and esthetics, may hide or induce local pathologic processes which have far-reaching consequences for the health of the individual. The result of these discoveries has been an increasing tendency

to regard dentistry as a health service, which imposes important new obligations on the dental profession. Leaders in dental education had come to realize the importance of adjusting the education of the oncoming dentists to these new conceptions in order that the dental profession might in the future render to the public a service that is in keeping with its responsibility for the health of the people.

At the same time a considerable amount of confusion had arisen in dental education because of the variety of curriculum plans which had been evolved. One group of dental schools had three-year curriculums based on two years of pre-professional education in college; another group had four-year curriculums based on one year of education in college, and a third group had four-year curriculums based on two years of study in college. This situation hampered the discussion of the problems of dental education and it stood in the way of progress.

The general plan of the curriculum was the subject of much discussion by the American Association of Dental Schools, beginning as early as 1924. This discussion was greatly stimulated by the *Report on Dental Education in the United States and Canada* made to the Carnegie Foundation for the Advancement of Teaching in 1926 by Dr. William J. Gies. The report stated that, although the practice of dentistry cannot be made an accredited specialty of medicine, it

should be developed into "the equivalent of an oral specialty of the practice of medicine" and it added:

"In this view of an enlarged dentistry, its practitioners would be trained to give the service not only of dental surgeons and dental engineers as at present, but of oral sanitarians and oral physicians as well. Instead of examining only the teeth and mouth of a patient, as is now usually the case in a restricted view of their responsibility, they would also suitably enquire into and keep careful records of the state of the patient's health, particularly as it affects or is modified by conditions of the teeth and mouth. Dentists would plan their procedures to meet not only the local indications but also the possible requirements of extra-oral relationships; would also recognize and note the significance of outstanding symptoms of systemic disease, and warn or advise the patient accordingly, or explain his need for a physician's attention; and could effectively discuss, with a physician, the oral conditions in their relation to a patient's general welfare. Prevention of disease at all ages would become an inherent and predominant motive."

The educational implication of the enlarged view of dentistry was evident. Dr. Gies suggested that attention should be directed to the content of the dental curriculum and he emphasized the need for improving dental teaching and dental research, in order that the dental profession might take its rightful place in the promotion of human welfare.

Finally, after considering these matters for several years, the Association made a request of the Carnegie Corporation for a grant to assist in conducting a curriculum survey. The Corporation responded in 1930 with an appropriation of \$20,000 to support a study designed (1) to discover the services which

dentistry should render to meet oral health needs, and (2) upon this foundation, to organize a course of study that would serve as a basis for adequately preparing men and women to render the services required of dentistry. An additional grant of \$10,000 was later made by the Carnegie Corporation for the support of the Survey.

The Association appointed a committee of five deans of dental schools to have general charge of the Survey. As finally constituted the committee consists of the following deans: Wallace Seccombe, University of Toronto, chairman; John T. O'Rourke, University of Louisville, secretary; Arthur D. Black, Northwestern University; H. Edmund Friesell, University of Pittsburgh; Harry M. Semans, Ohio State University. This committee selected as its educational advisers two well recognized educationists, Floyd W. Reeves of the University of Chicago, and W. W. Charters of Ohio State University. Also, it appointed the writer as executive secretary to devote his entire time to the Survey.

The Survey has been an extensive project. The types of oral diseases, disorders, and deficiencies were ascertained; studies were made of the services required of dentistry in its new relationships; and the objectives of undergraduate dental education were formulated. Sub-committees, consisting of a total of forty dental teachers, then outlined the content of the various courses to be taught to dental students, and more than a hundred dental teachers assisted in reviewing the proposed courses. Finally, the courses were arranged in a suggested curriculum, which included the following subjects: Orientation in dentistry, Personal hygiene, Materials used in dentistry, Physics, Organic chemistry, Physiological chemistry, Anatomy, Histology and embryology, Oral anat-

omy, Physiology, Nutrition, Bacteriology, Materia medica, Pharmacodynamics, Pathology, Oral hygiene and oral prophylaxis, Application of preventive principles in dentistry, Radiography, Diagnosis and treatment planning, Orthodontics, Operative dentistry, Oral medicine, Anaesthesia, Oral surgery, Dental prosthesis, Principles and practice of medicine, Technical composition, History of dentistry, Social and economic relations of dentistry, and Practice Management.

Some of the subject matter in the curriculum is new, much is old. The requirements of dental health service and the demands of an adequate program of dental education made it necessary to pioneer in the suggestions for teaching material. At the same time much subject matter now generally taught was found to serve the purposes very well. All the material incorporated in the curriculum was placed there because it was regarded as necessary to attain the stated objectives of undergraduate instruction in dentistry.

A determined effort has been made to correlate the subject matter of the courses. The instruction in the clinical subjects was outlined first and the instruction in the pre-clinical subjects was then definitely planned to give the proper background for clinical study. The outline for each subject was prepared with the entire curriculum in mind.

The American Association of Dental Schools at its annual meeting in Chicago, March 19-21, 1934, devoted the major portion of its program to a consideration of the report of the Survey. The principal features of the study were outlined at general sessions and the reports on the various subjects of the dental curriculum were fully presented by the sub-committees at group conferences. The dental teachers

studied the reports and made suggestions for the final report. The report of the Survey was well received and enthusiastically discussed by the dental teachers.

The Curriculum Survey Committee presented to the Association a series of recommendations relating to policies and plans for dental education. These recommendations, all of which were adopted, were as follows:

1. That the objectives of undergraduate dental education be the education of students in order that they may—

(a) Be competent in the maintenance of oral health and the treatment of oral diseases, disorders and deficiencies, with understanding and appreciation of the relationships between oral and systemic conditions in health and disease.

(b) Co-operate effectively with persons engaged in allied fields of service.

(c) Have interest in, and desire for, continuing professional study after graduation.

(d) Practice dentistry with due regard for its social, economic, and ethical relationships.

(e) Co-operate effectively in community life.

2. That two years of education in the liberal arts and sciences be required for admission to the dental school.

3. That a minimum of six semester hours in general chemistry and six semester hours in biological science be required in the pre-professional curriculum, and that courses in English, Sociology, Economics, and Psychology be recommended.

4. That the undergraduate dental curriculum be a four-year course.

5. That the curriculum to be submitted by the Curriculum Survey Committee be adopted as a guide to

the member schools of the Association.

6. That provision be made in the student's schedule for extra-class study in accordance with the hours included in the recommended curriculum.

7. That the member schools of the Association be urged to develop adequate library facilities and to promote their effective use.

8. That dental education be further developed as an autonomous field of professional education.

9. That provision be made for a medium of publication to stimulate interest in the study and discussion of the important problems of dental education and to disseminate information on these problems.

10. That the facilities of the member schools of the Association be urged to appoint standing committees to study the recommendations of the Curriculum Survey Committee and to investigate current problems in dental education.

The action of the Association in adopting the recommendations of the Curriculum Survey Committee does not make the recommendations mandatory on the dental schools. It merely makes the recommendations a statement of approved principles and plans for the guidance of the dental schools and persons and organizations concerned with the problems of dental education. It is, of course, apparent that the recommendations will probably have an important effect in the development of future policies and plans regarding education in dentistry.

The enthusiastic reception of the report by the dental teachers is a

clear indication of their great interest in the problems of dental education. Also, it is a sign that much progress is being made in training men and women for the practice of dentistry. Dental education is putting its house in order and it is doing this in a most creditable manner.

The final report of the Curriculum Survey is now being prepared. It will be published by the American Association of Dental Schools some time during the coming year.

The curriculum survey had scarcely gotten under way when the Committee had forcibly impressed upon it the need for improving the quality of the teaching in the dental schools. Other important related problems also called for attention. These problems were so large that adequate study of them would have required resources far more extensive than those at the disposal of the Committee. It was therefore decided to concentrate on the undergraduate curriculum as the first step in the further improvement of dental education and its adjustment to the new demands made on dentistry. The Association, recognizing the need for additional investigations in dental education, continued the Committee and charged it with making further studies and obtaining the necessary funds therefor, the studies to deal with methods of teaching in dentistry with graduate instruction and the education of dental teachers, research workers, and specialists, and with student personnel. The Committee is now formulating plans to discharge the added responsibilities laid upon it.

Hypochondriasis

The morbid interest or over-anxiety about health seems to be the spirit of the age and a semi-humorous critical analysis of this tendency appears in a current issue of the B.M.J. from the pen of Dr. Hutchinson, famous English child's specialist. The advice on health and peace of mind contained in his work fits into the life of everyone. Dr. H. has classified hypochondriasis along health lines into:

General hypochondriac—Usually an individual in middle life who fears that he is already or at least about to be in the grip of some malady. Symptoms are his hobby; they are collected as others collect stamps, antiques or china. Don't try to cure this chap; prescribe for him and steer him away from the quack whose meat he will undoubtedly become.

The Nosophobe—Fear some individual disease as cancer, tuberculosis. Movie films of "Damaged Goods" type or so-called "health talks", a "grumbling appendix", "a flabby heart", etc., sets them off in a panic. These cases need to have their fears allayed.

The crank—The health faddist, the deep-breather, the salt abstainer, vegetarian, the nudist, etc., leaps from fad to fad as the fashions change. Argument here is useless, ridicule may be the best weapon.

The physical prig—Mostly young men with a leaning to over-indulgence in muscular development. However, physical jerks to music by the middle-aged may be rewarded by undesired arterial or heart responses.

Parental hypochondriasis—The anti-natalist having allowed conception, the anti-natalist magnifies the approaching accouchement into

the class of a major operation resulting in the birth of the antiseptic baby upon the hands of the paediatrist and trained nurse who regulate him as the planets, and orange juice, glucose and fish-oil him into the pre-school age. The modern child with poor appetite and unstrung nerves needs neglect more than anything else to give him a chance as a normal happy child.

Filial hypochondriasis—Dad's heart won't allow him to smoke, a bridge game creates insomnia. Liberty of action may lead to a healthier, more peaceful old age, so why fuss up the little joy that remains in life?

Communal hypochondriasis—An affliction of the American continent. Talks, lectures, leaflets, slogans, etc., instead of being creators of a "Health consciousness" may really cause a "disease consciousness". The really healthy-minded pay no attention to it but the anxious may become afflicted with nosophobia as a result. No general rules of health are capable of universal application.

Dentists have played their part in catering to the nosophobia type. We still have with us the reactions of our hundred percenters over the so-called focal infection theorists; and a later stage in which we now dwell is notorious for the general recommendation of calcium pills, without regard to a complete diagnosis to ascertain the exact needs of the particular individual.

Dr. Hutchinson suggests that the duty of the professional man is to influence people not to yield to the fears of the age but to urge them "to stop their ears to the paralyzing terror and to run the race that is before them with a single mind".—*L. Mc.*

How We Got Our Vegetables

Some Interesting Notes on Their Past History*

By E. A. Bunyard, F.L.S.

A STUDY of exotic vegetables from the days of their introduction to those of general use leads us, not surprisingly, into a study of the least admirable side of human nature. Prejudice and superstition seem the main reasons why it has often required several centuries before a new vegetable has had a fair trial, and looking more closely into the matter of our likes and dislikes, the thought arises as to how far we have a reasoned basis for them. Do we really like tomatoes, or have we been merely hustled into eating them by mass suggestion?

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BROAD BEAN

One of the oldest vegetables of Europe is the Broad Bean, known to the Egyptians and probably to older peoples in western Asia. From the earliest records we have it has been surrounded by a mass of legend which has persisted even to this day, and which has often forbidden its use. Herodotus states that its use was forbidden to the Egyptian priests, and it was held that the souls of the dead passed into this plant. The seeds, when germinating, were compared to a human embryo. Having thus acquired a legend, the bean in its

travels into Europe was never quite able to throw it off. On the road to Elusis stood a temple in honor of the Bean god in whose honor "Bean-feasts" were held, and in later days the Roman Fabaria was devoted to a like ceremony. The identification of the bean with man still persisted and Lucian, probably ironically, makes one of his chief butts, the philosopher, say, "that to eat a bean is as bad as the eating of your father's head". The dark honey guides in the bean flower were read as portentous signs just as those of the delphinium. Curiously enough, much magic seems to have surrounded the haricot or French bean in central America. In the Middle Ages the broad bean still figured in religious ceremonies, being given as doles at funerals (another association with the spirits of the dead), and on Twelfth Day, at Epiphany and on other occasions. A full account of such religious uses may be found in Erasmus' "Adages". In secular use, the tradition seems to have been for choosing lots and for good luck, the "Great cake bearing a bean and a pease" in Ben Jonson's "Masque of Christmas", being an example and, indeed, the "lucky bean" persists to this day.

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ONION, CABBAGE, AND ASPARAGUS

Garlic was another vegetable associated with religious rites in

* Being an abstract of a lecture, entitled "The Introduction of Vegetables", given at the Horticultural Club, and now reprinted from the "Gardeners' Chronicle" by kind permission.

Egypt. It was an accepted sacrifice to the gods and its use by the priestly orders forbidden. Juvenal exercised his satire upon this custom. It will be remembered that the Hebrews regretted its absence on their return to Palestine from Egypt, but it was apparently introduced there by the time of the Crusaders, who are thought to have brought it to Europe at that period. In Europe generally it was considered to have beneficial properties, from the keeping of witches at bay to the cure and prevention of more tangible ills. Its use has, however, been mostly confined to the Mediterranean nations, the milder onion being more favored in central and northern Europe. It was known in England in Gerarde's day and considered to engender a "naughty, sharp blood". It is particularly associated with the rather truculent Provençal and Spanish cookery. Its name, *Allium Moly*, recalls the fact that it has been identified with the herb *Moly*, given by Hermes to Ulysses to check the undesirable advances of Circe. Of the other vegetables grown in Europe in classical days the cabbage was probably the most esteemed. In Greece and Rome it was regarded as a cure-all, and its power in dissipating the fumes of wine was not the least of its virtues. Asparagus was a popular Egyptian vegetable and in Rome, if we may believe Juvenal, heads were grown weighing three to the pound. In the Middle Ages it seems to have fallen out of favor, to be revived with other Greek arts at the Renaissance.

SPINACH

Spinach was a later arrival in Europe and the name is said to be derived from the Persian *Aspanah*.

It arrived in Europe, probably with the Moorish invasion of Spain, and was later known as *Espinaco*, from which our English word is, I presume, derived, despite the caution of the O.E.D., which leaves this question unsolved. In the famous agricultural and horticultural treatise of Ibn El Awam, written in Spain towards the end of the eleventh century, it is fully dealt with, but it does not seem to have arrived in England until Gerarde's day (c. 1568), as he then writes of spinach as "lately found, not long in use". A few years later, Gerarde and Dodoëns write of it as in "general use", and in Parkinson's day we have recipes for its culinary preparation.

HARICOT BEAN AND SCARLET RUNNER

The Haricot Bean is native to South America, and was seen by Columbus at Cuba, and in 1528 by Florida de Vaca on the mainland. By the year 1560 Matthioli mentions it as in common use in Italy, and in 1656 it was in England figuring in Tradescant's Catalogue. Notwithstanding this, the Haricot seems to have been little appreciated as it was but little used in England apparently until Miller's day. John Worlidge, in his *Mystery of Husbandry* (1669), states: "Of all sorts of Codware there is none so fruitful, nor multiplies so much as doth the French or Kidney Bean, being also a very pleasant, curious and wholesome food and deserves a greater proportion of land on our farm than is usually given to it. It is a plant lately brought among us, not yet sufficiently known." We may assume from the above that this bean was known in France before England and the name Haricot was applied

to it by Tournefort in 1694. There has been much discussion as to the origin of this word, sometimes a little confused by the fact that a haricot of mutton or other meat has been known in France in the fourteenth century, this word being derived from *haligote*, a small piece. There is, according to Professor Hamy, evidence that the American name is *Ayacotl*; in Italian it is *Fagiolo* or *Araco*. As we know from Matthiolus that it was commonly cultivated in Italy in the mid sixteenth century it seems very likely that *Araco* came from *Ayacotl* and became, in France, *Haricot*. The Scarlet Runner arrived in England a little later, in 1633 it was grown in Tradescant's Lambeth garden as an ornamental plant, and a century later Miller considered it was still thus valued, and he points out that it can also be eaten. Today in Scotland it is grown for exhibition purposes, but rarely for culinary use. This curious prejudice may perhaps be explained by a reluctance to eat and admire one and the same thing. Lilies are eaten in Japan and tulips are also edible, but it would be difficult to persuade us that they might be used as food.

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TOMATO

The Tomato illustrates very well the power of prejudice to keep a useful food from general use. On its arrival from central America it was naturally suspected as belonging to a poisonous family, the Solanums. Matthiolus, in 1554, describes it under the name "Pomi d'Oro" and states that it had recently arrived in Italy. From this the Italian name of today, *Ipomidoro*, was developed, and the French, probably from the word, arrived at "Pomme d'Amour", a

fact which should have led to its popularity in that country. It was not, however, until the early nineteenth century that the tomato entered the classic French cuisine, and one reason was probably the legend, not unknown a century later in this country, that it caused cancer. This, I imagine, was probably started by the old doctrine of signatures whereby a plant shows in some outward or inward aspect its medical vices or virtues; a heart-shaped seed was good for the heart; a kidney-shaped leaf indicated it as a cure for such troubles. The tomato in its original shape was uneven and warty and when cut showed a strong resemblance to a cancerous growth. For two hundred years, therefore, its culture was confined to Spain, Portugal and Provence, and today dishes containing tomatoes are known as *à l'Espagnole*, *à la Portugaise* and *Provençal*. There is plenty of evidence that the tomato was rare in Paris in the 1870's, and it was the irruption of the revolutionaries from the south, the Marseillais, who brought it to notice and so into fashionable French cookery, where it finally blended with lobster to make *Homard à l'Américaine* (the American vegetable), perhaps one of the most enduring fruits of the revolutionary period. In America it followed a similar course, and it was not until after the Civil War that it reached the northern States, although well known in the south. In England it was known to Gerard, but in the middle of the eighteenth century its only use was for medicine, and its great popularity began about the 1880's in London. Many will remember their first experience in tasting this vegetable — usually with repugnance. Do we now really like tomatoes, or have we only been persuaded by social pressure?

POTATO

The Potato had an even larger period of neglect and even active dislike, although it started with every augury in its favor. The Batatas or Yam (*Dioscorea Batatas*) was valued in Elizabethan times as an aphrodisiac and Falstaff's panegyric—"Let the sky rain potatoes"—referred to this vegetable and its properties, as the context well shows. The potato was thought to possess similar virtues, but it nevertheless took three hundred years to popularise it and only dire necessity persuaded the country cottager to include it among his vegetables. Its merits as a food for the poor were brought before the Royal Society in 1663, but Evelyn's faint praise may have checked this effort. In Wales, we read of it as a field crop in 1687, but in 1719 London and Wise, in their compendious account of vegetables, omit it altogether. Scotland can claim priority in appreciation of the Potato, as in 1728 Thomas Prentice, of Kilsyth, showed the merit of Scotch seed, and made from it a fortune of £200, and retired to Edinburgh on this thrifty competence. Bradley, of dictionary fame, laments in 1747 that it is "not yet enough into the notion of country folks". It was in Lancashire that large-scale cultivation first arose, and later around London. Arthur Young refers to three hundred acres at Barking in 1807. But this was for town consumption. In the country, folk agreed with Cobbett, whose liveliest invectives were showered upon the unfortunate tuber, and when the *Quarterly Review* suggested it as a substitute for bread, he broke out into a magnificent diatribe which can be read in his "Cottage Gardener". In his "Rides", he states with approval that Sussex did not show an acre of potatoes and, indeed, it was

made an election issue at Lewes in 1765—"No Popery, no Potatoes!" *The Times*, too, had its word to say, and said it in its own inimitable style. "A valuable esculent to lower the food of the opulent."

A USEFUL LESSON IN
HARD TIMES

The hard times after the Napoleonic Wars finally brought the potato into general use in the country, and after this long wooing it won its way at last into the daily life of the country laborer. In France it arrived early and was served at the royal table as a curiosity in 1613. In Burgundy it was thought to be a cause of leprosy, and its growth prohibited. In the early eighteenth century it was in general use according to Lemery, but, contrary to its English experience, not in the higher grades of society. The author of the "Ecole de Potager" (1749) wrote: "The worst of all vegetables. However, the people, which is the most numerous part of humanity, nourish themselves with it." A significant phrase in which one dimly hears the first faint rumblings of revolution. The great Parmentier, whose name our menus enshrine in various potato dishes, like many of the famous, earned his notoriety by an accident. His was the part of the *Quarterly Reviewer*, to recommend its use in bread-making, and as we see above, the potato as a vegetable was already well established thirty years before his famous book. It was, however, in Germany that the potato played its most important part. Owing to the prevision of Frederick the Great, the sandy plains of East Prussia were planted with the versatile tuber, and its culture and extension enforced by all the vigor of judicial

exactment. Prussia, therefore, was founded upon the potato in a way that no other European country has been by force of law, despite the protest of those who still believed in its dangers as an aphrodisiac. So long did the legend cling. The great famine of 1770 caused its universal adoption in Germany and in 1820 there were more acres grown than of rye, that great northern cereal and staple crop of northern Europe. The potato, therefore, changed the course of history by making the uninhabitable wastes of northern Prussia habitable, and from this has flowed a train of events of which the present troubled state of Europe is the result. Had the Holy Roman Empire remained the central force of European policy, how different might have been the course of history.

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THE NEED FOR NEW ENTERPRISE

We may, perhaps, consider that today we have outgrown such prejudices as I have detailed here, and are willing to consider any new vegetables on its merits. It is remarkable, however, how few of the genera of plants we have called upon to supply our vegetable needs. Are we sure that no other family of plants may not afford something of value? Should we eat, let us say, *nomocharis*, tulips or dahlias, or, in fact, any plant that we value for its flower? I think it very doubtful. It would be well, however, if a few bold spirits were to explore our vegetable resources. We make "spinach" from several different plants. Are they the only ones? We eat the tender shoots of hops and asparagus, and in Japan the bamboo—are there no others of value? The only vegetable of recent

years which has been introduced successfully and "boomed" is the *Stachys tuberifera*, and so far, France, so far as I know, is the only country where it is grown in marketable quantities. A touch of the Elizabethan spirit of adventure in the vegetable garden would not be amiss today.

OBITUARY

Dr. J. T. MacRae

The dental profession of Montreal and the province suffered a sudden loss last night in the death of James Theodore MacRae, D.D.S., L.D.S., in his sixty-third year. Although he had been in poor health for about two months and had been under medical care, Dr. MacRae's death came as a surprise and shock to his family, associates and many friends here. He died at his residence, 16 Arlington Avenue.

Well known in the profession to which he had given notable service over a number of years, Dr. MacRae was highly esteemed by his fellows both as dentist and citizen. He was born in Coaticook and after early education in the Eastern Townships came to McGill from which he graduated in 1892. He returned to the Townships and became principal of the school at Granby, holding this position until 1900.

In that year he came to Montreal to take up dentistry and studied under the direction of Dr. C. W. H. Rondeau until he was able to obtain his degree in 1903. Since that time he has built up a practice for himself in the city by dint of careful and skilful application to his profession.

He is survived by his wife, formerly Grace Windors Booth; by one son, Bruce, and by one brother who lives at Richmond.

Dr. Adam Edward St. John Dies

Dr. Adam Edward St. John, A.C.D.S., aged seventy-two, of 100 Furby Street, a prominent dentist of Winnipeg for forty years, died recently at his residence. The funeral services were held from the Thomson funeral chapel to the family plot in Elmwood cemetery.

Dr. St. John was born at St. Mary's, Ont., in 1862, and came to Winnipeg early in life. He studied dentistry at the University of Chicago, graduating in 1892, and practised for a short time in Kansas City and at Kamloops, B.C., before returning to Winnipeg. He was an honorary life member of the Manitoba Dental Association.

He is survived by one son, J. L. St. John, and one sister, Mrs. George Steen, both of Winnipeg. Mrs. St. John died about fourteen years ago.

The Death of Dr. Vernon D. Shaffner

Dr. Vernon D. Shaffner, 58, who had practised dentistry in Lawrencetown, N.S. for a quarter century, died at his home following a long illness and a succession of operations. He was one of the best known and most popular residents of the district and his death caused widespread regret.

He was born at Williamston, and received his degree in United States. He practised seven or eight years at Digby before coming here. He was a Mason, a member of the School Board for several years until ill-health forced his retirement, and leader of the Lawrencetown Band for many years.

He is survived by his wife, a daughter, Rosamund, a son, William, and two brothers, R. J. Shaffner and E. C. Shaffner, both in Lawrencetown.

Moncton Dental Society Elects Officers for Year

Dr. V. F. Hudson was elected president of the Moncton Dental Society at a meeting held last evening in City Hall. There was a good attendance of members of the society and other officers elected were Dr. F. E. Burden, vice-president, and Dr. A. H. LeBlanc, secretary.

In addition to the election of officers considerable other business of a routine nature was transacted. It was decided that dentists of the city will close their offices on Satur-

day afternoons during the months of June, July, August and September. The agreement will become effective June 2.

Plans were also discussed in connection with the annual meeting of the New Brunswick Dental Society which will be held in Sussex during the summer, at a date to be selected later.

Special gift books were autographed and will be presented to Dr. Garvin, of Winnipeg, who delivered a highly interesting address before the Moncton Dental Society a short time ago.

DENTAL SOCIETIES

Report of the Third Annual Convention of the Ontario Dental Nurses' and Assistants' Ass'n.

*Held at the Royal York Hotel,
May 21-22-23, 1934.*

The convention opened on the afternoon of Monday, May 21, at the Royal York Hotel, with registrations from three to six p.m., after which the members and guests made their way to Eaton's College Street Round Room, for the reception tea and musicale. Miss Edith Brown, president, received, assisted by Miss Ellen Tuck, social convenor for the convention. The assisting artists were Miss Winifred Nelson, vocalist, Miss Eva Rendall, pianist, and Mrs. McNaughton, elocutionist, who contributed greatly to the pleasure of the guests. The tea was well attended, seventy-nine members being present.

The convention proper opened on Tuesday morning, May 21, with the president, Miss Edith Brown, in the Chair. A gavel was presented by Miss Jessie Brown, on behalf of the Toronto Chapter, and was immediately put into service. The president then cordially welcomed the members to convention, expressing her pleasure at the large number present, and the hope that they would all enjoy the days of the convention. She then called on the secretary, Mrs. Marion Edwards, to present the agenda. Mrs. Edwards moved the adoption of the official program, seconded by Miss Jessie Brown, and carried.

Dr. C. Angus Kennedy, president of the Ontario Dental Association, then welcomed the members, and continued:

"I trust you will all take something home with you from the convention. Remember you are working with doctors doing health service, therefore you are part of the health service the profession is trying to give to the public.

I am glad you are meeting at the same time as our association, and hope you will be at our luncheon today when we have Dr. Herman N. Bundesen, Officer of Health, Chicago, one of the best speakers in America today, and it will be of great educational value to hear him. At the Round Table Conference tomorrow noon, there will be a couple of tables for you where you can discuss any topics you wish.

I hope you will have a very successful and entertaining convention. I am very glad to welcome you here this morning.

The Mayor of Toronto was unfortunately detained, but sent Alderman Harry Hunt in his place to present the welcome from the city of Toronto. Mr. Hunt apologized for the Mayor's absence and said that Mr. Stewart expected to come until the last minute, but unexpected business had turned up. Mr. Hunt then continued:

Mr. Hunt:

The Mayor has asked me to extend to you a word of welcome in this, Toronto's Centennial year and the hope that you will have a very pleasant and interesting time during your convention. These conventions can do a lot of good, but it sometimes strikes me that they do not always get down to the fundamental things. At these conventions we have speeches and addresses of welcome over and over again, but

what are we doing to get a better understanding, for example, a better understanding between the employee and employer? Now you, in your work, can do a tremendous amount to get that better understanding. If things are to improve, and if we want to see ourselves living in a better world, we must all do our part. At these conventions we can do a great deal to bring about better conditions. We must all unite in this and make this Centennial year a year when we shall sweep forward to better things for one and all.

The president then read a very interesting account of her visit to the convention of the American Dental Assistants' Association, held at Chicago last summer, in which she was accompanied by Miss Ellen Tuck. Copy of this report is appended hereto.

The president then moved the adoption of her report.

Miss Tuck—"I think our president has covered the ground very well indeed; she does not seem to have missed a single point, and I am sure we accept her report with pleasure."

The president then asked the secretary to call the roll, and it was found that there were present: eight members from Hamilton; two from Kingston; three from London; six from Essex County; three from Ottawa, and one from Beaverton; also Miss Hyde, president of the Montreal Association, and Miss Ratner from Montreal.

Dr. Wallace Seccombe, Dean of the Faculty of Dentistry, University of Toronto, then addressed the members:

Dr. Seccombe:

I would like to thank you for giving me this opportunity of greeting you again this year. We usually try to have a message for you of encouragement or inspiration, leading to better service, but

this morning there is just one thing in my mind, and that is the great need in these trying times of the best possible co-operation, and I am reminded that we have here two groups—dental nurses who have taken a course at college and graduated, and others who have been working faithfully for years, serving well some member of the profession. These two groups have co-operated and meet together here from year to year in the most friendly manner.

I thought it might be of service to have an informal discussion this morning of the Minimum Wage legislation. There is always an inclination to put our heads in the sand like the ostrich when there is difficulty to face, but it is better to face these things. In the college each year we have accepted a maximum of twenty-five for the Dental Nurses' Course, and sometimes these have been unable to secure positions. So it is a question whether we should accept fewer than twenty-five—perhaps twenty would be a wiser number, and I would like to have your opinion. Any form of education is an expense to the State, and people are now asking whether or not there is a need for this type of service or that type. There is no justification in spending public funds in teaching someone to teach school if there are 1,000 school teachers without a position. That is a waste, and the same applies to our own activities. So we might have a little discussion, and decide what is the best way to meet the situation.

In these days of depression there are members of the profession carrying on practice at a much lower ebb than formerly. They have to perform dental duties for much lower fees and find it difficult to "keep the home fires burning", and on account of this Minimum Wage law some of them have to

carry on without a dental assistant. Some dental assistants might rather stay home and knit socks than work for a low wage, so I think it would be helpful if we could determine what should be the policy of this combined group. What should be the difference in the Minimum Wage schedule could we make representations to the Minimum Wage Board regarding this? I think such a discussion might be very helpful.

The president—"This is a very interesting discussion and the committee will work on it overnight, and we can talk it over tomorrow."

A hearty vote of thanks was tendered to Dr. Secombe for his address, and his interest in the members.

* * *

The result of the discussion by the executive committee on the above subject is given in the following brief report:

1. *Minimum Wage Board:*

We feel that the question of salaries is an individual matter between the dentist and the assistant, and should be brought up before the dentists themselves; that we, as an association, have never agitated for salaries, but we have the interest of all Dental Assistants at heart.

2. *Education of Dental Assistants:*

- (a) There should be no more, and possibly less than twenty-five students taken in any year's class at the College.
- (b) That sessions might be eliminated for a year or two, to absorb the surplus.

* * *

Dr. H. B. Spaulding, B.A., Ph.D., then addressed the meeting, taking as his subject "The Place of Mental Hygiene in Education".

Dr. Spaulding:

I would like, if possible, to get clear what education really is, and what mental hygiene is. You can-

not get any consensus of opinion of what education is—it has been defined as "a training for life", but this does not get us very far as a definition. To define mental hygiene is even more difficult; sometimes it is called a movement, but I would rather think of it as a point of view. To get an idea of its growth during the past few years, you must look at its history. It started in the States some twenty-five years ago through the efforts of a brilliant young man named Cliff Beare(?) who was for a while insane but recovered completely. So painful were his recollections of the treatment he had received that he devoted his whole after life towards securing better arrangements and treatment for those in mental hospitals. The advances and achievements in that line have been stupendous; all mental hospitals are not perfect, but in Canada and United States the patients get kindly and careful treatment. The abuses of twenty-five years ago have practically disappeared.

Attention has also been given to another thing—to endeavor to prevent mental disease, which gets close to my subject. Those interested became convinced that the roots of mental disease go far back in life, and it is too late to start the cure when the patient shows symptoms of the disease. Dr. White of Washington has said that childhood is the golden age for mental hygiene.

There is also another phase, for we find a great many mental disabilities outside the field of insanity. We all know people who, while not in danger of real mental disease, are living warped, frustrated lives, cannot get along with other people, never get a square deal, but nothing is ever *their* fault. If they marry, they do not get along with their wives or husbands. So outside the field of mental disease

there may be in the realm of mental hygiene something to secure for people better and fuller lives.

Now what can be done in the schools so that when children grow up they will be fairly free from the menace of mental disease? We don't want to emphasize the point, but it is a fact that in a fair-sized school probably half a dozen pupils will eventually become insane unless something is done about it. It is difficult to say what the schools should be doing, but I cannot help thinking that education is "missing the boat" in many ways because it is trying to do so many things. Mental hygiene does not take up very much time, and we do want teachers to know something about it, and something more about human nature than they seem to at present.

We are changing our views as to which pupils need attention, even from the point of mental hygiene. In the old days (and even now sometimes) children were labelled as "bad" and "good", the bad ones being those who are talking all the time, creating disturbances, making a noise. Mental hygiene is not worried about that type—we look on them as healthy young citizens. We are more concerned about the so-called "good" child who sits in a corner and reads rather than go out to play—the child who never talks in school or gets into a fight. These are the ones who need attention. Then there is the child who lies and steals and goes into temper tantrums, but we are getting past the point of view that these children are bad and the only thing to do is beat it out of them. This does not always achieve the desired result. We do not approve of lying or stealing, but we believe it is a symptom of something wrong in that child's life. Beating him will only make him more careful about being caught and will

never get to the root of the trouble. One reason mental hygiene does not move faster is that it is rather difficult to apply—it is difficult to find out why a child steals. Perhaps he is not getting the satisfaction he should out of playing with the other children—he may be left out of things and have a feeling of inferiority, and if he can come along every so often and buy the group candy, he becomes a big fellow. This is very logical, and to strap him will not get at the root of the trouble, and in questions such as this we feel that Mental Hygiene can make a great contribution.

We are now taking children of certain levels of intelligence and putting them in classes with teachers specially trained. This is good but not perfect, for children of even very low intelligence have emotions just as the rest of us, and to segregate them is not a perfect solution. These "dull" children absorb a great deal more than we used to think they did, so in these auxiliary classes we try to grade the children without their knowing it, and so give the dull child a chance to associate with children of higher intelligence, and so not label him as dull and give him a feeling of inferiority.

All this goes back to the teacher, for no matter what advances there are in education or what we have in the way of curriculum, build-ups, etc., a school will never be any better than its teachers. A child consists of something more than a mind, and while the aim of education may be to train the child's intellect, Mental Hygiene should not be left out, and the teachers should have some training in it. If a child is in a temper, or has emotional problems, he is not going to do much learning, so we cannot look on children as pure intellects and train the teachers in

nothing but Pedagogy. Teachers usually realize this after teaching a while, and many have taken up this training themselves. In some places teachers have to have some psychiatric or Mental Hygiene training.

I have not begun to cover the ground of my subject, but it is a big field, and perhaps at some future time we may be able to go into it more thoroughly.

* * *

A vote of thanks was presented to Dr. Spaulding for his very interesting and instructive address.

Dr. Helen MacMurphy, of Ottawa, O.B.E., was the next speaker—her subject was "Preventive Medicine".

Dr. MacMurphy:

What is Preventive Medicine?

Yesterday on the street car I saw a lady about thirty-six years of age. In her case there had been at work for a long time, perhaps since childhood, a process of disease which might have been prevented. There was a shortening of the spine, a deformity of the back, evidence of tuberculosis of the spine which must have happened at an early age. The day before I saw another case of the same disease, even more marked, which might also have been prevented. But for the powers of nature neither of these ladies would have survived; they were able to live because nature had been able partly to repair the damage done.

There are three types of tuberculosis: Avian, found in birds; bovine, in cows; and human tuberculosis. Tuberculosis of the bones in childhood is almost always of the bovine type and comes from milk. It is easily preventable by pasteurization of milk which was made compulsory in Toronto in 1914. The records of the Hospital for Sick Children, Toronto, from 1926-1933 show that not one To-

ronto child admitted to the Hospital in the last seven years was suffering from tuberculosis of the bones. That is Preventive Medicine.

The aim of Preventive Medicine is two-fold: To find out the cause of disease and death; to prevent disease and death by removing the cause. Nearly all maternal mortality should be prevented. The Bush Nursing Association of Australia have a wonderful record—2,273 confinements in five years without a single maternal death. In Villiers-le-Duc, France, the Mayor was appalled at the number of maternal deaths and decided to see what he could do about it. What he did was to go and study medicine himself. He came back after taking his medical degree and was elected Mayor again, and from 1894 to 1903 not one mother died in Villiers-le-Duc in childbirth or from causes connected therewith.

In 1932 in Canada we lost 5 mothers for every 1,000 living births; in Toronto we lost 6 mothers for every 1,000 living births. The Victorian Order of Nurses lose only 2 out of 1,000 living births. We lose in Canada about 1,200 mothers every year, over 3 a day, from childbirth or causes connected therewith.

The loss of a mother is the greatest loss that the home and the community can suffer.

There are two great ways to prevent these deaths. First, pre-natal care, and this is one way in which you can help. You know how often the expectant mother has to go to the dentist on account of decay of one or more teeth. When she comes to the dental office you can be her friend—she will tell you things she will not tell the dentist, and you can help her. Pre-natal care is the greatest of all preventive measures, for it is often easy to *keep* people well, but when an expectant mother does not go to see her doctor at

the beginning of pregnancy, what would have been easy becomes difficult, and perhaps impossible. Prenatal care must be early, regular and systematic, and must last all through pregnancy.

The second way is the prevention of infection. Puerperal septicaemia is a preventable disease. Since 1930 much has been learned about the cause of puerperal septicaemia, and how to prevent it.

We have learned a great deal about the cause of disease during the past few years. The cause of typhoid fever is known; it can be prevented by slow sand filtration and chlorination of water, or by boiling our drinking water, if necessary. Anti-typhoid inoculation is another preventive measure.

It has been discovered that some diseases are caused by a virus; among these diseases are probably smallpox, measles, infantile paralysis and the common cold. The common cold, which is a great danger, and many other diseases, can be prevented, and I ask you to do your part in the great work of Preventive Medicine.

* * *

Dr. MacMurchy's address on Preventive Medicine was most instructive and interesting, and this was stressed in the vote of thanks presented to her.

* * *

At 12.15 the members gathered in the Tudor Room of the hotel for the complimentary luncheon. Mr. William McTavish, president of the Dental Dealers' Association, cordially welcomed the members and presented the guest speaker, Judge R. S. Hosking, of the Court of Domestic Relations, Toronto. After expressing his appreciation of being asked to speak at the luncheon meeting, Judge Hosking continued:

DOMESTIC RELATIONS

I would like to tell you something about the brand-new Court. We all know something about the Children's Court where children are tried by themselves, and usually by a judge supposed to possess a knowledge of children and be interested in them, so when it comes to a family Court I suppose the judge should know something about family life. The familiar figure of Justice is a woman, blind, holding a pair of scales, but if we studied justice as relating to children down through the centuries, we would conclude that Justice is not only blind but downright stupid. Less than fifty years ago in England there were in prison boys so small that they could not do up the buttons on their clothes—that was one of the warden's duties—and guards with fixed bayonets were set to watch these tiny children. Now we believe a new day has dawned. In the Children's Court Judge Mott and others have gone a long way in softening the hardships of the law as affecting child life, and our task is to work out some of these principles in the relationship of husbands and wives, parents and children.

The oldest family court in Canada was created in 1929, and ours a few weeks later. We have no example of a family court in England. There are some in United States but we are a British people and our ideas are different, and so we have to plough a lone furrow. We take what we think of value from the U.S. court, but we must build a typically Canadian court with traditions of British justice and still remain Canadian. This is no small task. We started the Family Court because we found the Children's Court and its methods so successful.

Living conditions have changed

greatly of late. It is one thing to bring up a family on a farm, for instance, and another thing in an apartment house with families to right of you, families to left of you, and above and below you.

Bringing up a family in these congested areas is very difficult and often results in trouble, and the Family Court tries to settle these difficulties. We had a Men's Police Court, a Women's Court and a Children's Court, and between them they tore the family apart, so we decided to put all family matters into one Court, thus separating family matters from criminal cases, which is a great advantage. Then we have no publicity which is a great advantage, for by publishing accounts of cases we simply take the black sheep and hold him up as an example to youth, doing far more harm than even the movies or the tabloids, and discrediting marriage in the eyes of youth on account of the comparatively few failures.

Still another advantage is that about our Family Court we have a host of workers of different kinds: Children's Aid, Mother Allowance Com., psychiatrists, psychologists, etc., and when necessary we call in this or that worker, and perhaps re-establish that family, keeping the Court in the background. Fully 95 per cent. of the cases do not come into Court at all, but are dealt with outside. Working with the family is hard work—one must almost have a sixth sense to be successful at it.

One point more. In the creation of a Family Court you have the recognition of the family as a unit, and to me one of the most important units of society. There are certain currents in society at present trying to undermine what family life has rested on. Some say that family life is old-fashioned and that we should work out some-

thing new, but to me it is a fine thing that the Government does not agree with this, they believe in the sanctity of family life, and are willing to create a court of reconciliation to preserve it, thus creating something constructive in the place of these so-called "new" ideas.

However, we are just beginning our work and, as I said before, are ploughing a lone furrow. We have not accomplished enough yet to boast about it, but we are enthusiastic and hope that the future will show that our ideas are sound and in line with the finest ideas of British tradition.

* * *

A vote of thanks was presented to Judge Hosking for his interesting talk on the Court of Domestic Relations.

* * *

The assisting artists at the luncheon were Beth Arnott Ellis, who delighted us all with her splendid rendition of ballads, Russian folk songs and, as a special request, De Koven's "O Promise Me"; and Florence Howison, pianist, who played the accompaniments beautifully. There were one hundred and forty-six present at the luncheon.

The exhibits then claimed the attention of the members, this period having been kindly reserved for them.

* * *

A message of congratulation and good wishes for convention was read from Miss Ruth Rogers, president of the American Dental Assistants' Association.

The afternoon session opened with an address on "Health" by Dr. W. L. Morrey, of Chicago. Dr. Morrey:

I feel that you and I have a great deal in common—we are all dental health workers, working together in one common cause, and to be successful in our work we should

be able to instill dental hygiene habits into those with whom we come in contact. If we can do this, we are successful dental health workers.

It is our duty to teach people the value of mouth hygiene, and to do this there are three things we must understand, appreciate and use. The first thing is the object we are attempting to reach, the second is the audience to whom we are talking, and the third is the information we wish to impart.

Our object, of course, is to teach people the value of mouth hygiene, the necessity of better teeth, of preventing dental decay, and the host of systemic diseases which follow in the wake of dental decay.

Our audience is the public, but we must divide that public into different groups. Sometimes we are talking to adults, sometimes to children, sometimes to workers, sometimes to teachers, etc. We must know our audience and cut our cloth accordingly, so that we will be able to motivate them the way we desire. We must take the type of audience into consideration and adjust our talk to them.

The third thing is the least understood by all of us—the information itself which we want to give to our audience to stimulate them and get action out of them. In this connection there are three things we must understand: The collection of the material, the preparation of material, and the presentation of that material.

We must be extremely careful in the information which we collect and use. So many of us are apt to snatch at some new fancy or fact presented by some supposed health official or authority, and present it to our audience without actually knowing it to be true. You remember a few years ago the statement was given out that "a clean tooth never decays". It was a snappy

phrase and was spread broadcast, doing a great deal of damage to the subject of mouth hygiene, for we know that clean teeth do decay. Another statement,—if a child had enough calcium he would not have decayed teeth—also did a lot of damage, though not so much as the preceding one. Then there was a lot of enthusiasm over Vitamins, but we know now that this will not cure the trouble either.

Next, the preparation of the material. Most of us are not scientists, and it is my job and yours to take the scientific findings that have been developed by research workers and translate their terms into language so that we can get our message over to the public—we must be careful to translate these terms into lay language so that they will retain their scientific correctness. I think it was Christopher Morley who said that the art of clear writing was not to write so that everybody should understand you, but that nobody could possibly misunderstand you. So in preparing your material be sure you sift it well and take out just the fundamental everyday health facts that you feel are sure, and present it to your public in such a manner that they will fully understand it, and that they will be motivated by your thoughts and actions. You will thus get the results desired in your community—to develop a desire for better health, an understanding of the underlying process of dental decay and why it should be eliminated, particularly in the mouth of children. This will bring about better health and better constitutions in children and others with whom you come in contact.

A vote of thanks was presented to Dr. Morrey for his splendid talk on Health and the Dental Health worker. * * *

The president then called on

Miss Helene Flach of Hamilton Chapter, who gave a most interesting paper on the History of Anaesthesia, copy of which is appended hereto. Many complimentary remarks were passed about this paper, and a sincere vote of thanks to Miss Flach.

* * *

A visit to the Sick Children's Hospital was scheduled on the program to follow this, and the members adjourned to the Hospital where one of the resident doctors acted as guide and lecturer on the trip through the different departments.

The artificial respirator elicited a great deal of interest. The doctor explained that it is used a great deal in infantile paralysis, and how one patient has been in one of these respirators for three weeks, and recovered from the disease. He also told about a case in Boston where a patient had been in one for a year.

The laboratories were also very interesting with their cultures, etc., but particularly appealing were the wards with their tiny inmates. After looking at some little babe who looked as if his little life might be snuffed out at any moment, it was heartening to hear the doctor say: "Oh yes, that baby was very sick, but he's all right now; he'll soon be well."

* * *

The Public Health Rally at eight o'clock in the Concert Hall of the hotel was well attended, many of the members taking advantage of the opportunity to hear the brilliant speaker, Dr. Herman N. Bundesen, of the Chicago Health Department. His address was most enthusiastically received.

* * *

The morning session on Wednesday, May 23, opened with table clinics given by members from the different Chapters, and proved of

great interest to all who were privileged to attend them.

Following this Miss Loretta McCaughey, R.N., of London, gave a very interesting paper on "First Aid", copy of which is attached hereto. This was very complete and showed that Miss McCaughey had spent a great deal of time and study over her paper, and it was highly appreciated by all present. A hearty vote of thanks was presented to Miss McCaughey.

The Business Meeting came next on the Agenda.

The president:

During the year 1933-34 your president called eight executive meetings, three of which were convention executive.

For the other meetings, notices were sent out a week in advance by the secretary in order that ideas might be received for discussion. Minutes of these meetings were sent to each Chapter.

During the summer the Thunder Bay Chapter was organized—much of the credit for this goes to Miss Semenuik of the Toronto Chapter. (The president asked Miss Semenuik to stand to receive the expression of appreciation of the members.)

In December your president contacted with a classmate in Sault Ste. Marie, Miss Edith Nattress. There are only six assistants in that town, and are not quite ready to organize, but this will be a fertile field for next year.

At this business session today there is prepared and ready for adoption the papers, sealed and signed, which give our organization a legal status—in other words, a Charter issued by the Province of Ontario recognizing its existence, and you will be asked to vote on this later at this meeting.

This has been a most interesting year of planning. The executive have done splendid work—I ex-

pected that for I knew them all and knew their work. However, I would like to speak most particularly of the enthusiasm of the out-of-town Chapters, and wish I could have been of more vital value to them than that achieved by correspondence.

A president of any organization cannot work absolutely alone, and it is only with your loyalty and support as individuals that we can carry on, and for this I thank you.

* * *

The president then called on Mrs. Edwards, recording secretary, to read her report, copy of which is appended hereto. Mrs. Edwards also reported that convention registrations this year amounted to 151, and moved the adoption of her report. Miss McCaughey seconded.

The next report was that of Miss Gladys McMaster, corresponding secretary, copy attached. Miss McMaster moved its adoption, seconded by Miss K. Anderson, of Ottawa.

Miss Gertrude Wiggins, treasurer, followed with her report, and moved its adoption.

Miss Wiggins also moved the adoption of the auditor's account and spoke of his consideration and kindness during the year. Miss Tuck seconded this and moved that the same auditor be reappointed for next year. This was decided on.

In the absence of Miss Helen Ansell, who unfortunately could not attend the Business Meeting, Miss Kerr read the report of the Hamilton Chapter, copy herewith.

The report of London Chapter was read and adopted, also that of the Kingston Chapter, and a letter from the Thunder Bay Chapter telling of their activities. Copies of these attached.

The report of Essex County Chapter was read and adopted.

The report of the Ottawa Chapter was read by Miss Hazel Brown

in the absence of the president.

The report of the Toronto Chapter was read by Miss Jessie Brown, and adopted. Copy attached.

* * *

The president then asked for a vote on the adoption of charter prepared and presented by the Provincial Government for recognition of the Ontario Association. Miss Brown explained that it gave the association legal status, and that as an Ontario Association they should have it, but the members had the privilege of accepting or rejecting it. The fee for charter is \$10.00.

Miss Gladys McMaster moved the adoption of charter. This was seconded by Miss Hill, and carried.

Mrs. Edwards spoke of the message received from Mrs. Juliette Southard, founder of the American Dental Assistants' Association, and moved that an expression of appreciation be sent to Mrs. Southard from this meeting. This was seconded by Miss Wells, of London.

Mrs. Edwards recalled the fact that Mrs. Southard had never forgotten the Canadian Association while it was in session, and suggested a message of sympathy and encouragement in view of the fact that Mrs. Southard had been very ill for some time, and bereaved by the death of the doctor with whom she had worked for 28 years. The meeting was heartily in accord with this feeling.

Elections:

The elections were then proceeded with, Dr. Martha Law graciously taking the Chair. Dr. Law congratulated the executive who had planned such an interesting program, and also the members who had prepared such excellent papers and reports. She deplored the drop in membership, and hoped that next year the Association would go

"over the top" in that respect.

Scrutineers appointed: Miss Robertson, Miss McEwen and Miss Inkster.

Result of Elections:

President: Miss Ellen Tuck, president elect, becomes president.

President-elect: Miss Jessie Brown, Miss Loretta McCaughey and Miss Helen Ansell nominated. Miss Brown and Miss McCaughey withdrew. Miss Helen Ansell—president-elect.

Vice-pres.: Miss Dumouchelle, Miss Gladys McMaster and Miss Jessie Brown nominated. Miss Brown withdrew. Miss Wiggins moved that Miss McMaster be prevailed upon to accept office; Miss K. Anderson seconded. Miss Gladys McMaster—Vice President.

Rec. secretary: Mrs. Marion Edwards, Miss Edith Brown and Miss K. Anderson nominated. Miss Brown and Miss Anderson withdrew. Mrs. Marion Edwards, R.N.—Recording Secretary.

Corres. sec'y.: Miss Collett, Miss McCaughey, Miss Wiggins and Miss Dumouchelle nominated. Miss McCaughey withdrew. Miss Collett elected Corresponding Secretary.

Treasurer: Miss Gertrude Wiggins and Miss Jean Lindsay nominated. Miss Wiggins elected Treasurer.

Auditor: Miss Tuck moved that Mr. Greenwood be re-appointed Auditor for ensuing year. Seconded by Mrs. Edwards and carried.

Dr. Law thanked the members for the honour of being chairman, and expressed the wish for another successful year. The new President and executive were then installed. Miss Tuck moved that the same Advisory Board be retained; seconded by Miss McMaster.

Miss Tuck, incoming President: I would like to say that if I can

preside at Convention next year half as well as Miss Brown has done, I shall be quite satisfied.

Miss Edith Brown welcomed the new Executive and wished them success for the coming year.

Miss Wiggins moved that a motion of regret be placed in the Minutes that Miss Brown did not see her way to staying in office as President for another year. This was seconded by Miss Hill.

Miss Adele Cameron moved a sincere vote of thanks from all to Miss Edith Brown for her splendid work during the past year. This was seconded by Miss Whitehead and Miss Dumouchelle.

Miss Jessie Brown moved a vote of thanks to Dr. Law for so kindly consenting to act as Election Chairman.

Following the elections, Dr. Donald C. Padelford, of Rochester, showed slides illustrating "Porcelain Jacket Crowns and Inlay Polishing", with a running commentary on the different slides. These slides proved most interesting and instructive to the members, and much information was gleaned from Dr. Padelford's enlightening remarks.

Dr. Padelford also remarked that nothing gives a dentist greater pleasure than making porcelain restorations, and that in doing so a dental nurse is absolutely a necessity, and that the dentists cannot do without the girls in that line of dentistry.

Dr. Padelford received a hearty vote of thanks from the members for his interesting talk on "Porcelain Jacket Crowns".

"Winning and Holding the Child Patient", a comprehensive and interesting paper by Miss Audrey Dumouchelle, followed, and was much enjoyed by the members. A

vote of thanks was presented to Miss Dumouchelle for her work in preparing this paper.

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At the Round Table Conference at Luncheon on Wednesday, two of the members, Mrs. Marion Edwards, R.N., and Miss Gertrude Whitehead, D.N., were asked to lead in discussion on "How Best Can a Dentist and his assistant co-operate to make a successful practice".

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The Convention of 1934 closed on Wednesday, and was voted most successful by one and all.

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At the closing meeting of the 1933-34 season of the Toronto Jewish Dental Society, elections for the following year were held, with the following results:

President—Dr. H. A. Landsberg.

Vice-President—Dr. B. Bregman.

Sec.-Treas.—Dr. H. M. Jolley.

Members of Executive Committee—Dr. S. Breslin, Dr. S. Perlman.

Representative to P.D.H. Committee of O.D.A.—Dr. S. Simon.

The management of the free clinic for indigents which has been in existence for seven years and which is housed in Scheuer House and staffed by members of the Society, was entrusted to a committee of three composed of Drs. Leslie, Strauss and Garfield.

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Dental Governors

The following Ontario dentists compose the new board of governors of the Association: E. C. Veitch, Toronto; J. C. A. Crawford, Haileybury; R. S. Wollatt, Toronto; J. N. Stewart, Hamilton; J. S. Lapp, Toronto; I. R. Hamilton, Ottawa; R. C. McCutcheon, Highgate. The public dental health committee is composed of Dr. J. S.

Lapp, Toronto, chairman and Doctors F. C. Husband, M. A. Ross Thomas, Arthur W. Ellis, R. D. Thornton, all of Toronto. Dr. C. Angus Kennedy, Toronto, the past president, becomes honorary president of the Association.

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The Ontario Dental Ladies' Committee convened by Mrs. C. Angus Kennedy arranged a variety of entertainment for the out-of-town guests of the Ontario Dental Convention at the Royal York Hotel on May 21, 22 and 23.

A reception and supper at the Royal York, a luncheon and bridge at the Granite Club, and a dinner and dance were the outstanding social events planned in honor of the visitors. The reception committee are: Mrs. C. Angus Kennedy, Mrs. Frank Martin, Mrs. W. B. Amy, Mrs. E. W. Paul, Mrs. A. D. A. Mason, Mrs. W. Seecombe, Mrs. E. C. Veitch, Mrs. C. E. Brooks, Mrs. W. L. Chalmers, Mrs. F. C. Husband, Mrs. J. A. Bothwell, Mrs. Arthur Ellis, Mrs. R. S. Woollatt, and Mrs. A. E. Webster.

—●—

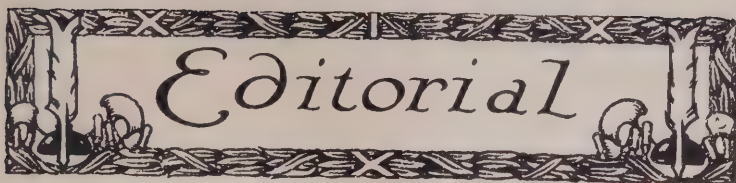
Dr. Herman W. Bendesen, president of the Board of Health, Chicago, addressed the Ontario Dental Association at their recent convention in the concert hall of the Royal York Hotel.

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Meeting of the American Dental Association

A cordial invitation has been extended to all members of the Canadian Dental Association by the American Dental Association to attend their seventy-sixth annual session at St. Paul, Minnesota, August 6-10th, 1934.

Members are reminded that it will be necessary to present their membership card in the Canadian Dental Association.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

ASSOCIATE EDITORS

QUEBEC—Eudore Debeau, L.D.S., D.D.S., Montreal.

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BRITAIN—J. Menzies Campbell, D.D.S., L.D.S., F.R.S.E., Glasgow, Scotland.

VOL. XLVI

TORONTO, JULY, 1934

NO. 7

Making a Dental Diagnosis

If the physician, the dentist, the teacher, the parents and the nurse do their part, most children will reach adolescence with 80 per cent. normal dentures, so says the report of the school dentist of Cambridge, England. At this age a new problem arises that is sometimes called making a dental diagnosis. There is more than making a diagnosis in the problem. Since a complete cure is rare, there must be a study of how far the cure can go. This involves a prognosis which in the majority of cases is quite as important as making a diagnosis.

There is another kind of dental diagnostician who works out an elaborate system of examination and calls it diagnosis. He deals only with the medical aspect of dentistry. Making a dental diagnosis and prognosis covers a wide field of the healing art and is more than reading X-rays and the discovery of pus pockets.

CORRESPONDENCE

Editor, Dominion Dental Journal:

Yesterday Mr. Check came in wanting a price on plates. So he wanted to know if I was the dentist Mr. McGreg had been to, and if I had taken an X-ray and filled two teeth for 85c. . . I said that was the first I had heard of it. He said his wife had been to Dr. P. who had taken out her teeth and made her two plates at \$30.00, and that he still owed \$8.00 on them, but as times were bad if I would do it any cheaper I would get the job. I finally told him that I could make him two plates for thirty dollars, but that the extraction would be extra, and some of it would apply on the plates (for he might get me to take out the teeth and then go elsewhere) and a fee of \$1.00 for the first and fifty cents for the next ones. He had been laid up all winter with heart so he could not have extensive extraction done without taking chances. I know where he can get them out at 25c. each, but no local used, yes this is 1934. He can get his dentures (?) the same place for \$10.00 each, and get his money back if not satisfied. I usually get \$25 per denture, and make about six a year because of the high fee?

What is the use of me going to conventions or trying to do decent dentistry when there are dozens of dentists working against all I can do to educate the people as to what is available. A person may spend from a hundred dollars to twice that or more and get good value for dentures, but to tell the ordinary patient that is to drive them elsewhere. Why should I take the teeth out for nothing? Will the garage supply me with a new tube

free if I buy a tire? Not much. Does a physician guarantee an operation, or anything he does? Then why should a dentist be asked to do so, and why do some get so weak-kneed that they do so? Is that professional? Why also do dentists tell each other that they will stick to reasonable fees and then the first thing you know they have cut them all to pieces, and are doing nerve blocks and extraction for 75c.? The only nice thing that happens in this connection is that some of the patients who go to such men come back to their former dentist after a time or two with the cheap one, but the worst of it is that they then resent paying a decent fee, and want to know why you cannot equal the cheap man's charge. To tell them you are doing the work better or using better materials is not to convince them. They think the dentist makes more than the physician. I have had dozens tell me so much. Physicians charge me \$2.00 for a house call, yet if I charged that for a nerve block I am a robber.

What is the solution? Should we have a publicity bureau to which I can send names and they will take on the task of educating these people by letters and pamphlets? Or am I falling down in dealing with such people? What about the patient that does not intend to pay and goes to another if asked for money? How can we deal with them, where no credit collection bureau is active or accessible?

What is the solution, or am I crazy to look for one?

Yours truly,

I. WONDER.

Copper Plate Tests reveal marked difference in abrasiveness of Tooth Pastes

<i>Tooth Paste</i>	<i>Abrasion on Copper: Weight Losses in Milligrams After 100,000 Strokes.</i>
PEPSODENT	0.65
"B"	0.77
"C"	2.70
"D"	2.90
"E"	3.36
"F"	3.80
"G"	3.80
"H"	4.10
"I"	4.36
"J"	4.60
"K"	5.50
"L"	5.80
"M"	6.60
"N"	8.00
"O"	10.18

Reproduced from page 11 of the brochure: "*The Abrasiveness of Dentifrices.*"

RECENTLY the Research Laboratories of the Pepsodent Co. published the results of extensive studies to determine the relative abrasiveness of not only the polishing agents used in dentifrices, but more significantly, the abrasiveness of leading tooth pastes and tooth powders.

Above is reproduced the Table showing the relative abrasiveness of the better known dentifrices on the market. Each tooth paste was submitted to six copper plate tests and the average weight losses are recorded above. The figures reveal a marked difference in degree of abrasiveness. Product "O" is fifteen times as abrasive as Pepsodent Tooth Paste.

The Pepsodent Co. has mailed a copy of the brochure presenting this study to every member of the Dental Profession. If you have not received your copy, one will be sent to you upon request.

THE PEPSODENT CO., TORONTO

Ottawa, June 9th, 1934.

Dr. A. E. Webster,
Editor "Dominion Dental Journal",
230 College Street,
Toronto, Ontario.

My dear Doctor,—It is a very long time since I saw you, but that is my fault and my loss.

About forty years ago, the late Dr. W. George Beers, of Montreal, was, I understand, founder of the Dominion Dental Journal, and made me Associate Editor on your Journal. When you took over office, you honored me by continuing me as Associate Editor, and so far as I know, I still retain that honor. Some years ago, however, the Dominion Dental Journal was made the official organ of the Dominion Dental Council, and I now wish to do two things: (1) advise you that I am no longer Secretary of the D.D.C., and consequently cannot furnish you with information with regard to the Council; and (2) should it happen that I am still Associate Editor of

your Journal, I wish to withdraw from such office. Forty years is long enough for anybody to endure me.

I am now free from all official connection with all dental bodies, and wish to take this opportunity to thank you for the many courtesies which you have, personally, extended to me in the years gone by.

Yours very truly,

W. D. COWAN.

The Editor.—There is a note of pleasure in the foregoing letter because it witnesses the constancy of one of dentistry's faithful servants. Through thick and thin of public life, municipal, provincial, and Dominion, Dr. Cowan has always had time to take his share of professional responsibility.

After forty years of service we might well allow Dr. Cowan to resign but we can hardly strike his name from the list without asking him to allow his name to stand as an Honorary Associate Editor.—
A. E. WEBSTER.

A Dental Patient Speaks

BUT Doctor, I can't understand why I have bad teeth. They're brushed twice a day. And I use the most expensive toothpaste I can buy, because it's supposed to keep teeth healthy. Yet my teeth give me trouble. Can you tell me why?"

You know the answer, doctor,—and so do we. No matter how expensive a toothpaste—no matter how often it is used—no matter what promises or implications of dental health it offers—a toothpaste can only clean teeth. It takes a dentist to cure.

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FOR SALE—Dental Office Equipment in first-class condition with good-will of practice, in Ottawa, Ont. Owner wishes to retire. For particulars address Box 113, Dominion Dental Journal, 73 Richmond St. W., Toronto.

DENTAL MECHANIC with three years' experience on plate work, desires position with opportunity to learn, small salary accepted. A. Duddridge, 1080 Trafalgar St., London, Ontario.

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ORIGINAL CONTRIBUTIONS

The Vaccine Treatment of Chronic Arthritis

Delivered before the Ontario
Medical Association
May 30th, 1934

Hagar Hetbrington,
M.B., M.R.C.P. (Lond.)

The management of the arthritic patient has become such an involved and complicated problem that it is only possible to discuss a small part of the program. For that reason I will confine my remarks to the results of some of the methods in use at the Arthritic clinic at St. Michael's hospital.

This clinic was established about five years ago, and since that time over 500 patients have received treatment. The class of patient dealt with is the same as that to be found in any outpatient department at the present time, viz., people in very poor circumstances, and those on municipal relief. These patients are more difficult to treat than those in private practice, so we are probably justified in saying that any success attained by the methods to be described should be greater and more easily achieved in private practice.

The terminology used in this clinic is that adopted by the British Ministry of Health and approved by the International League for the Control of Rheumatism,

viz., rheumatoid arthritis and osteoarthritis. The first type corresponds to atrophic, proliferative, or infectious arthritis of other terminologies; and the latter to hypertrophic, degenerative, or senile arthritis.

Among the forms of treatment given, one to which we have given particular attention is vaccine therapy. The vaccine employed is that advocated and used by Dr. Warren Crowe of the Charterhouse Rheumatic Clinic in London. This is a stock vaccine consisting of a number of different strains of streptococci, to which have been added a staphylococcus, *Micrococcus deformans*, believed by Crowe to be an important etiological agent in chronic arthritis.

There has been considerable difference of opinion amongst workers on this subject regarding the strength of the dose of vaccine to be used. For many years very large doses up to several million organisms per cc. have been advocated, after the manner of treating colds, boils, and various other infections. But for the past few

years more and more workers have come to believe that weaker doses are preferable, since they lessen the chances of local and general reactions, and avoid any interpretation of the results as being due to a foreign protein reaction. At this clinic we have followed Crowe, who says, "Injections of vaccine must be so graded in strength and so spaced as to provoke that amount of response in sensitized tissue cells which will faintly arouse their normal anti-bacterial powers; but that such reactions must not be followed by a depression or slowing down of the vital processes, when cells may be more susceptible to bacterial invasion. Thus the smaller the dose the better the result providing always that some appreciable effect occurs." It is worth noting that in those clinics which have adopted the weak dose method the results have shown definite improvement.

The strength of the doses given by us varies from one hundred thousand to as low as five organisms per cc. The initial dose is usually about five thousand organisms. This dose is then increased or decreased according to the response of the patient, until an optimum dose for that patient is reached. Once the optimum dosage is reached no system of graduated dosage is used.

Several workers have recently advocated the intravenous use of vaccines. They claim it causes less general reaction and decreases the sensitivity of the patient. However, we have found so few general reactions in patients treated by us that the subcutaneous route has been adhered to. These injections are given bi-weekly or weekly according to the response of the patient.

The local reactions that have been observed consist of an increase of pain, swelling and stiffness in the joints involved. While

these symptoms are uncomfortable they are not dangerous, and may be avoided by a proper regulation of the dose. The general reactions have varied in severity from an increased temperature, malaise and headache, to merely a feeling of lassitude or drowsiness. These symptoms usually appear on the day of the injection or the day following, and should be avoided if at all possible. When such a reaction occurs the following dose of vaccine is reduced to one-tenth of that causing the reaction and then cautiously raised until a beneficial effect occurs.

When a good response occurs there is a decrease or disappearance of pain and stiffness from the joints and a general feeling of well-being. At first this relief from symptoms may only last a few days or so following the injection. But by judiciously spacing the treatment and altering the dose the period of remission may be greatly increased and the freedom from symptoms may continue, often indefinitely.

Following Crowe's plan, foci of infection were not removed until the patients showed definite general improvement with decrease in joint symptoms. During the period of removal of infected foci the dose of vaccine was greatly reduced. Other forms of therapy were reduced to a minimum on the patients receiving vaccine therapy. The only medication employed consisted of small doses of aspirin and occasionally wintergreen liniment. Because of the inability of these patients to obtain proper foods, no changes were made in their diets. As usually occurs in time of depression, food cheap in cost and high in energy yield was used. We found that the average diet of these people consisted of approximately 220 gms. of carbohydrates, 50 gms. of protein and 40 gms. of fat, yielding about 1,600 calories. The min-

eral and vitamin content of these diets was proportionately low. According to the accepted ideas of normal arthritic diets, these are grossly inadequate, and even for the maintenance of health they leave much to be desired. But since a fair proportion of the patients on these diets showed improvement, we began to wonder whether the rigid adherence to low carbohydrate and high vitamin diets in the treatment of arthritis was justified. We placed twelve of the patients on diets as low as vitamin content as possible by allowing most of the calories to be obtained from carbohydrate. We found that over a period of several months that the improvement in these cases was just as good as when they were on their usual diets. Doubt has also been placed upon the value of high vitamins and low carbohydrate content of arthritic diets in a recent article by Pemberton. It is beyond question that in any chronic disease a properly balanced diet containing a large amount of vitamins is of value. But we believe that too much stress has been laid upon the low carbohydrate and high vitamin content of diets in the management of arthritis.

It is well recognized that in arth-

ritis, as well as in any chronic disease, there may be periods of natural remission lasting from weeks to months or even longer. This fact makes the evaluation of results from any form of therapy difficult. The cases mentioned in this report have all been attending the clinic for a period of 6 to 18 months. In a few cases improvement in symptoms began following 4 to 6 injections and has continued ever since. In such cases it has been our practice to prolong the intervals between the treatments corresponding to the improvement shown. Some cases have attended for several months before definite improvement occurred. Often such periods of improvement were terminated by some infection such as a cold, sinusitis, etc. But usually these relapses were only temporary. During such relapses the dosage of the vaccine was greatly reduced. Unfortunately a fair proportion of cases did not show any improvement even after treatment as long as twelve to eighteen months. In such cases vaccine therapy was discontinued and other forms of treatment tried. The following slide shows the length of time these patients received treatment before a remission occurred.

CHART I
Results of Vaccine Treatment

Number of cases improved after treatment less than—	Duration of Improvement
3 months—31	2-14 months
6 months—12	2-18 months
9 months—2	1- 5 months
12 months—3	1- 6 months

It is a doubtful practice in any chronic disease to interpret the results obtained from any form of treatment by giving the percentages of cases relieved or cured of symptoms. But since this is done

at other clinics we have followed the same plan in order to compare our results with theirs. The following slide shows the results obtained by us in 87 cases of both rheumatoid and osteoarthritis. The

CHART II
Results of Vaccine Treatment

	St. M.H. Series		Burbank's Series		Traut's Series	
	No. Cases	%	No. Cases	%	No. Cases	%
Worse	1		21		0	
Unimproved	45	55.2	55	7.5	4	13
Improved	39	44.8	940	92.5	21	68
Symptom Free	0		170		0	

results from two other clinics are also shown. In some cases these results are hardly comparable because their cases have been rigidly selected by agglutination and skin

tests for their reaction to streptococci. Such groups would naturally show a higher percentage of improvement or cures than ours. The next slide shows the results

CHART III
Results of Vaccine Treatment

	Number of Cases of Rheumatoid Arthritis	Number of Cases of Osteoarthritis
Unimproved	31	15
Improved	24	13

obtained with rheumatoid as compared with osteoarthritis. It will be seen that in the latter group the percentage of cases showing improvement is about the same as in rheumatoid arthritis. Most workers feel that it is useless to treat osteoarthritis as if it had an infective etiology. But among our cases some success has been achieved.

The results of this work suggest that in unselected cases of arthritis vaccine therapy is, on the whole, just as successful as any other form of treatment, and that when combined with other forms of treatment in cases that can be properly selected and controlled success oc-

curs in a large percentage of cases.

However, in practice it is not always possible to make use of the special methods of selecting the patients as by skin and agglutination tests, and it is well to know that in unselected cases the practitioner can offer the patient a fifty per cent. chance of improvement by using a stock vaccine. The relief from symptoms and the general improvement of the successful cases repays one for the work done without results, and we feel that every patient with chronic arthritis should have the opportunity of receiving this particular form of treatment.

History of Anaesthesia

Anaesthetics from the Dental
Nurses' Point of View

*Miss Helene Flack,
Hamilton, Ont.*

Madam President and Members:

The origin of the use of anaesthetics is shrouded in the mists of antiquity.

We can do no more than speculate with the uncertainty of ignorance as to the precise means which were first adopted for the mitigation of human suffering. That the ancient Egyptians, Assyrians and Chinese were familiar with many vegetable substances, capable of producing pleasurable, sedative effects, all writers upon this subject are agreed, and there can be no more reasonable doubt that they took advantage of these effects when practising the rudimentary surgery of the time.

The first anaesthetic we have reference to is in the Book of Genesis; wherein the Lord caused a deep sleep to fall upon Adam. This sleep, the famous one whereby the rib that was Adam's was extracted to be used in the evolution of his partner, Eve.

The Talmud also contains references to the ancient practice of inducing torpor or deep sleep by artificial means; whilst Herodotus especially makes mention of the custom of inhaling the fumes of a certain kind of hemp the effect of which was to produce an exalted mental state followed by sleep. But according to the testimony of one surgeon of the time, the vaunted preparation left much to be desired,

for the patient had to be tied down or held by strong men.

Some surgeons prescribed medicaments such as opium, the juice of the morel, ivy or lettuce, which sent the patient to sleep, so that the incision would not be felt. There can be no doubt that it was the practice of many surgeons of the Middle Ages to produce some degree of stupefaction or insensibility during surgical operations, as is evident by poems written in the middle of the 16th century.

In the year 1540 Cordus discovered sulphuric ether, but its narcotic properties were not recognized until nearly three centuries later.

We are informed that in 1589 Porta, a surgeon practising in Naples, used an essence made from solanum, poppy and belladonna enclosed in a leaden vessel and the lid being opened, the patient would draw in the most subtle strength of the vapors, so that he would be buried in a most profound sleep, nor be aware of what had been done to him.

Early in the 17th century attempts were made in Italy, particularly by Valverdi, to obtain unconsciousness by compression of the vessels of the neck, a procedure of strangulation, which is said to have been employed by the ancient Assyrians.

In 1661 Greatrakes produced

magnetic sleep by means of stroking or making passes over the patient's body. A century later in 1776, Anthony Mesmer evolved his theory of "Animal Magnetism".

After an almost equal lapse of time, James Braid, of Manchester, in 1843 inaugurated modern hypnotism. Years later, while practising in India, Erdaile successfully induced hypnotic anaesthesia, performing a variety of surgical operations upon the natives.

It was not until the very close of the 18th century that our modern system of anaesthesia began to be foreshadowed. Up to this time the various means which had been adopted for the prevention of pain during surgical operations had been utterly unreliable—in other words, true anaesthesia in the modern sense of the term has never been obtained.

But the discovery of Hydrogen by Cavendish in 1766, of nitrogen, Rutherford in 1712, of oxygen and nitrous oxide in 1774 by Priestley, marked the commencement of a new era in chemical physics and paved the way for the introduction into medical practice of a new, precise and reliable system of inducing the most complete unconsciousness and maintaining this state for any reasonable time without injurious consequences.

There seems to be no reasonable doubt that in 1842 Dr. C. W. Long, a country practitioner of Jefferson, Ga., administered ether vapor with the distinct object and fortunate result of producing insensibility to pain during surgical operation, which he performed and that he subsequently employed the same means with equal success. Long and his assistants had been in the habit of occasionally inhaling ether for amusement, and noticing that bruise had been unconsciously sustained, Long decided to test the anaesthetic effects of the vapor in surgical practice.

He appears, however, to have taken no steps to make his important results known beyond the immediate circle in which he lived; indeed it was not until some years later when rival claims of others were hotly contested, that his own claims were brought forward and substantiated.

The next step in the evolution of anaesthesia took place in 1844, when Sir Humphry Davy's predictions regarding the future of nitrous oxide in surgery became for the first time realized. In this year Dr. Horace Wells at Hartford, Conn., was present at a popular entertainment given by a lecturer on chemistry and noticing as Long had done in the case of ether, that one who had inhaled "laughing gas" had unconsciously sustained injuries whilst under its influence, he determined to test its merits as an anaesthetic in Dentistry. He accordingly inhaled some of the gas and a friend of his extracted a tooth for him without the slightest pain being experienced. The result was so marvellous that Wells immediately began to employ nitrous oxide in his own practice, so convinced was he of the importance of his discovery that he soon gave a public demonstration in the surgical theatre of the Harvard Medical School. Owing, however, to the want of knowledge which necessarily prevailed as to the principles upon which the administration should be conducted, the demonstration proved a fiasco and both Wells and his anaesthetic fell into undeserved discredit.

The year 1846 is memorable as having witnessed the next advance. That is the recognition of the fact, by the inhalation of ether vapor, complete anaesthesia could be produced. In this year Dr. W. T. G. Morton, a former pupil and partner of Wells, consulted the latter as to the manufacture of N₂O. Wells referred Morton to a well-known

chemist, Charles Jackson, who suggested that instead of employing N₂O, Morton should try sulphuric ether, which was far easier to obtain. Acting upon Jackson's suggestion and unaware of Long's results, Morton administered ether in two or three dental cases, with such success that he gave a public demonstration of his discovery in the Gn. Hosp. of Mass. on the 17th of October, 1846, whilst Dr. Warren operated. This time the anaesthetic left little or nothing to be desired. It is regretted that Morton tried to keep the nature of his anaesthetic a secret. Secrecy, however, was out of the question owing to the characteristic odor of ether vapor; Dr. Biglow soon detected the nature of Morton's anaesthetic and at once sent news to London; from there it rapidly spread throughout the civilized world.

To Dr. Horace Wells belongs the honor of first intentionally producing surgical anaesthesia by means of nitrous oxide and of attempting to establish by a public demonstration, that system of inducing insensibility to pain which has since spread into all countries.

Clinical researches, concerning the effects of administering different percentages of air and oxygen with nitrous oxide, led the establishment of that system of administering N₂O and O₂ which is now in common use and which is unequalled so far as actual safety to life is concerned. This was mainly due to the initiative and originality of the late Sir Frederic Hewitt. It may be said, indeed, that the loss of consciousness which can be secured by non-asphyxical nitrous oxide anaesthesia is practically free from risk to life.

It is also satisfactory to note that within recent years more thought has been bestowed than formerly upon the advancement of general anaesthesia. The patient is more carefully prepared, he is often examined prior to operation with the special object of deciding upon the most appropriate means of producing anaesthesia; he is spared as far as possible all visible distress immediately prior to and during anaesthetization, and precautions are frequently taken to reduce the after-effects of the anaesthetic.

The earliest work on local anaesthesia dates back to 1860, when Nieman and others published literature with reference to the anaesthetic properties of cocaine. Not until 1884 did Koller introduce it as a valuable adjunct in surgery, and to this day it has played an important role in that field. Owing to the fact that the drug is extremely toxic in clinical use, a substitute with less of the disagreeable features of cocaine was sought. Later, research workers endeavored to build up from the benzene ring a suitable substitute that would have the effect of cocaine, but lack some of its toxic properties. Later, attention of research workers was directed toward the alkyl compounds of amino esters, and there followed orthoform, nervanin and holocaine and others. From this group anaesthesia was discovered in 1901. Finally in 1905 Einhorn and Uhlfelder were rewarded, as the culmination of their experiments with novocaine, the anaesthetic that is used universally.

Thus here is a résumé of the advancement of anaesthetics which are the greatest blessing to the world.

Winning and Holding the Child Patient

*Miss Audrey Dumouchelle,
Windsor, Ont.*

The significance of this subject is significant to the dentists' success in practice. The child patient of today becomes the adult patient of tomorrow. Many times through the loss of the importance of this factor the dentist finds himself in later years with a diminishing practice.

The oversight of the importance of children's dentistry from the point of the dentists' future practice is mostly neglected due to the dread of this children's work. This is largely due to the mental attitude of the dentist, and the lack of knowledge of many assistants. We as dental assistants can be of immeasurable value by making ourselves competent assistants in this type of work. Children's dentistry properly handled should be as interesting and remunerative as any other type of dentistry.

The thought should always be foremost that we are dealing with a child and a child's mentality. We in turn must have the ability to place ourselves on the same plane of thought as the child for whom we are working.

As a rule a child's first visit to the dentist is a result of pain. This together with some of the magnificent stories of the child's playmates, and the unintelligent handling by the child's parents in suggesting that it won't hurt or there will be no pain makes the child a very difficult proposition to handle.

This is where our work can be of greatest assistance. We must first win the confidence of this child. Our first conversation must be directed to the child such as finding out his name, etc. This conversation must be continued directly to the child, otherwise we eventually find our conversation has drifted to the parent and we have lost our initial point.

The child can be informed of what he is going to see, such as the equipment and chair. These can be explained with relation to something amusing to the child; for instance, you may tell the child you are going to show him the "cutest" chair that can be made large enough for his daddy or small enough for him and that it raises and lowers something like an elevator.

It is not objectionable to have the parent accompany the child into the operating room on the first few visits, as this gives the child an added confidence, keeping in mind, however, that all conversation must be directed to the child. In a short time it will not be necessary for the parent to remain in the operating room with the child.

The dentist and the assistant must be considerate of child patients when engaging in conversation with them regarding instruments required for the operative work. Technical terms should be discarded and in their place such

terms employed as will be intelligible to the child. Children being operated upon will look with suspicion upon anything and everything used. They are likely to stretch their imagination making it difficult for the assistant to manage them. The dentist and the assistant when talking about what will be necessary in the way of instruments and material should direct their conversation to the child instead of to each other.

If the dentist desires the assistant to get a particular instrument, he should state to the child that the next instrument he is going to use will do a certain thing to the tooth, and the instrument and operative procedure should be explained with childish illustrations. The assistant who is alert will recognize the instrument from the explanation given the child by the dentist, and before the dentist is finished his story the assistant will have presented the instrument.

When the operative work has once been started it is best to keep up a continual line of childish talk

and not allow any lagging in the work. Both the dentist and the assistant should avoid using words suggesting unpleasant things such as "nerve", "hurt", etc. or speaking of mouth conditions as being very bad, because the child is sure to magnify their importance and severity.

The proper way to visualize the various instruments is to compare them to toys and various playthings for which children have a liking. The burr should be compared to the bumblebee as described in fairy tales; the chisel may be called a rake; the explorer, a fishing pole, and the mouth examination lamps compared with searchlights or likened to the lights worn by miners on their caps. A childish illustration can be given to practically everything in a dental office and will do much towards making children feel at home with the dentist and the assistant.

Having obtained the confidence of the child a future patient has been assured.

First Aid

Paper read before Ontario
Dental Nurses and
Assistants, May 23rd, 1934

*Miss Loretta McCaughey, R.N.,
London*

Lady President and Members of
the Association:

When Miss Brown asked us to give this paper on "First Aid" it sounded very simple. However, gathering some facts on this subject that would be not only instructive but in some way not too uninteresting was more difficult than at first believed.

In an emergency take charge. A life may be lost for want of someone to take charge and give first aid when an accident has happened. Next, find out how badly the person is hurt. Treat the most serious injuries first. Look for bleeding, wounds, broken bones, burns and signs of shock. If necessary, rip or cut clothing from the injured part. Move the victim only if necessary and then with the greatest care. It is easy to make a bad matter worse. Act promptly but not hastily. Decide what needs to be done and do it promptly. Keep calm and quiet. Cheer the patient, and do whatever is necessary to make him comfortable, and no more. Call a doctor at once. Tell him what has happened and what you have done.

Bleeding. Severe bleeding must be checked as quickly as possible to prevent death. The blood may flow in quick spurts or in a steady stream. Spurts of blood mean that an artery has been cut; a steady

flow means that a vein has been cut. Bleeding from an artery can usually be stopped by pressing with thumb at the spot where the artery crosses the bone. When an artery is bleeding the pressure spot is between the bleeding point and the heart. When from a vein, pressure must be made on the side away from the heart. If the flow is not violent a compress placed over the wound may be sufficient. Very often a tourniquet is the only way of stopping the loss of blood. Any belt, strap, necktie, handkerchief or similar article which can be tied around an arm or a leg over a pad will serve as a tourniquet. Any large pad the size of an egg or a little larger will do. The strap is tightened by twisting with a small stick or pencil until the bleeding stops. This is applied on the near side to the heart for arterial bleeding and on the far side for bleeding from a vein.

Do not twist too hard—just enough to stop bleeding.

Loosen tourniquet every twenty minutes and let a little blood escape. Serious damage may be caused by blocking off the blood supply too long. If the bleeding has stopped when the tourniquet is loosened, do not again tighten, but have it in place in case the bleeding returns. If there is severe bleed-

ing in a place where a tourniquet cannot be used, especially from the neck, groins and armpits, press the fingers directly over the wounds. Replace the fingers as soon as possible with clean gauze, a freshly laundered handkerchief or other sterilized material.

Internal Bleeding, as into the brain, stomach, intestines, cannot be seen. It causes weakness, pallor, faintness, feeble and irregular breathing, and later, a loss of consciousness. While waiting for a doctor treat as surgical shock.

Shock—Most serious accidents and many slight ones may cause shock. Shock is dangerous. Treatment should begin immediately after bleeding has been controlled.

Signs—Patient seems stupid and loses interest in what is happening or he may be partly or totally unconscious. The skin is pale and covered with a cold, clammy sweat; the lips and nails may be blue. The pulse is rapid and hard to find; breathing is feeble.

Treatment—Send for a doctor. Lay patient flat on back with head low unless there is bleeding about the head, in which case the head should be raised slightly. Remove from his mouth removable false teeth, gum or tobacco. Keep warm with coats, blankets and with hot water bottles, hot bricks or stones which have been covered with cloth or newspapers to prevent burning the patient. It is best to test the heat on your own forearm. Aromatic spirits of ammonia—a teaspoonful in a half glass of water—hot coffee, hot tea or hot water may be used to stimulate. But do not give any stimulants to an unconscious patient or to a conscious patient who may have internal bleeding.

Electric Shock—Marked by sudden loss of consciousness, stopping of breathing and severe burns

where the wire has touched the flesh.

Rescue—Do not touch the victim's bare skin while he is still in contact with the wire or rail. It's as dangerous for you to touch his flesh as to touch the wire itself. Turn off the current if you are near the switch or power-house. If this cannot be done, stand on a folded dry coat or on newspapers or dry board while with one hand—and the hand should be protected with several thicknesses of dry cloth or newspaper—grasp a dry part of the victim's coat and drag him away from the wire, if possible, or remove the wire from the victim, using a dry wooden stick. Another method of removing the victim found lying on the wire is to pull him off by looping over his foot or hand a piece of dry rope, belt or handkerchief.

Fainting—Usually results from mental excitements such as fear, sight of blood or emotional shock, but may accompany slight injuries or exposure to overheated rooms.

Signs—Patient becomes dizzy and weak and turns pale. He either sinks into a chair or falls unconscious.

Treatment—If you notice a person is going to faint you can sometimes revive him by bending his head down between his knees. If he does not improve lay him flat on his back and lower his head by raising his hips. Loosen all clothing around neck and waist. See that he gets plenty of fresh, cool air. Sprinkle cold water on his face and neck or hold a handkerchief containing a few drops of aromatic spirits of ammonia to his nose every minute or two. When consciousness returns the patient should continue to lie quiet for awhile before getting up.

Sunstroke or Heatstroke—Follows long exposure to hot sun or intense heat indoors.

Signs—Always unconscious. Patient's skin is dry and hot, his face is flushed, the pupils of his eyes enlarged.

Treatment—Remove to a shady place and take off as much of the victim's clothing as possible. Send for a doctor. Cool his body by cold sponges, using ice water if possible. Keep this up until patient becomes conscious. Then give him all the cool water he will drink, but no stimulants.

Sunburn—This may be treated like any other mild burn. Baking soda and water, ordinary or carbolyzed vaseline or salt and vinegar lessen the discomfort. If sunburn is severe or patient appears sick, get a doctor.

Ivy Poisoning—First wash off with soap and water. Follow with pure grain alcohol. Apply a dressing kept soaked in cold soda bicarbonate solution to relieve pain or itching. It will also help to prevent the spread of the poisoning to other parts of the body. If the case is bad, see a doctor.

Insect Stings—Apply ammonia water and later, cloths wet in cold water.

Boils—These result from an infection through a slight wound in the skin, due to scratching, shaving, etc. Boils are common in people with certain diseases such as Bright's disease, diabetes, T.B., poor circulation and indigestion. Hot applications of water or antiseptic solution may be used to relieve pain. A doctor should always be consulted.

Frostbite — Signs — Whiteness and numbness of the flesh. It feels cold to the touch. Rub part vigorously with cold water, snow or chipped ice. Continue this treatment until normal color is restored. Stimulants, such as hot coffee, tea, cocoa or milk should be given.

Nosebleed—This may be due to a slight injury or may come without injury, especially in children. Slight bleeding does no harm and does not require much treatment. Pinching the soft part of the nose may help. If bleeding continues put patient in a chair with head slightly forward. Loosen the collar. Apply cloths wrung out of cold water to the back of neck. If bleeding persists, get a doctor.

Burns or Scalds caused from chemicals should be washed with large quantities of clean water. Apply wet soda to area and dress, keeping dressing moist; carron oil, vaseline and almost any cream.

For Acids — sulphuric, hydrochloric, nitric, etc., soap solution or baking soda in water or lime, (scrape plaster from walls if necessary) in water.

Carbolic Acid—Epsom salts in water or vinegar or soapsuds or raw whites of eggs in water. Do not use oil.

For Lye, Caustic Soda, Caustic Potash—Vinegar, lemon juice; follow with oils.

For fly, rat and ant poisons and matches—Alum water or mustard water or salt water or whites of eggs, but give no oils for poisoning from matches.

Drowning — After rescuing a drowning victim lock your hands underneath his stomach and lift several times in order to force water out of air passages and stomach. Do not lose much time in doing this, as the important thing is to begin artificial respiration at once.

Artificial Respiration (The Schaeffer Method).

Lay the patient on his belly, one arm extended directly overhead, the other arm bent at the elbow and the face turned outward and resting on hand or forearm, so that the nose

and mouth are free for breathing.

Kneel straddling the patient's thighs, with your knees placed at such a distance from the hip-bones as will allow you to place the palms of the hands on the small of the back with fingers resting on the ribs, the little finger just touching the lowest rib, with the thumb and fingers in a natural position and the tips of the fingers just out of sight.

With arms held straight swing forward slowly, so that the weight of your body is gradually brought to bear upon the patient. The shoulder should be directly over the heel of the hand at the end of the forward swing. Do not bend your elbows. This operation should take about two seconds.

Now, immediately swing backward, so as to remove the pressure completely. After two seconds, swing forward again. Repeat twelve to fifteen times a minute, the double movement of pressing and letting go, making a complete respiration—drawing in and letting out of the breath—in four or five seconds.

Continue without interruption until patient breathes naturally; if necessary, four hours or longer, or until a physician declares the patient is dead.

As soon as this artificial respiration has been started and while it is being continued, an assistant should loosen any tight clothing about the patient's neck, chest or waist. Keep the patient warm. Do not give any liquids whatever by mouth until the patient is fully conscious.

To avoid strain on the heart when the patient revives, he should be kept lying down and not allowed

to stand or sit up. If the doctor has not arrived by the time the patient has revived, he should be given some stimulant, such as one teaspoonful of aromatic spirits of ammonia in a small glass of water or a hot drink of coffee or tea. He should be kept warm.

Resuscitation should be carried on at the nearest possible point to where the patient received his injuries. He should not be moved from this place until he is breathing regularly, and then moved only in a reclining position. Should it be necessary, due to extreme weather, etc., to move the patient before he is breathing normally, artificial respiration should be kept up during the time that he is being moved.

A brief return of natural breathing is not a certain indication for stopping the resuscitation. Often the patient, after a temporary recovery, stops breathing again. The patient must be watched; if natural breathing stops, artificial respiration should be begun at once.

If it is necessary to change the operator, this change must be made without losing the rhythm of respiration. In this way, no confusion results at the time of change, and a regular rhythm is kept up.

Fractures—In case of fracture, unless a course has been taken the safe thing to do is to make the patient as comfortable as possible after a doctor has been called.

I am sure there are many subjects we have not touched in this paper, but the time is limited, and I am sure if only we have helped in some small way we are very glad.

I thank you.

How We Might Speed-Up Dentistry

A Few Suggestions

Never before has "time" been rated with such a high value as in the present. "Speed" has entered this age (for the most part) to a superlative degree, affecting business, professional lines, and the world in general.

The competent dental nurse of this day must be alert, observant, and efficient, devising ways and means whereby she may enable the dentist to accomplish more for his time. As far as possible, let there be no delays during the operation. Be watchful, and have things ready for each step.

I thought this afternoon to give just a few suggestions of how we might "speed up" dentistry, although it is very probable that you have the same ideas in use in your office.

We have the care of the cabinet in the operating room. Are the trays always kept replenished, or has the doctor to wait, during an operation, while we go to the stock supply for the needed article? The trays and each individual compartment in the tray holds a certain requirement. When cleaning the cabinet are we careful to put each supply back in its proper place, or is there time lost while a survey is made for the article required?

When a cavity is prepared for an amalgam filling, has the dentist to wait while we make up the matrix holder to suit this special case, or have we four holders fitted with bands, always ready to meet the

service of any filling required—mesial-occlusal and distal-occlusal of molars or bicuspid. The filling inserted, is there delay while we cut a rubber strip that the mesial or distal surface may be smoothed? Or have we already a supply of rubber strips cut and do we have the thought to place one on the operating table?

A patient requires a crown. Are we prepared with a full assortment of separating stones already mounted in the container or have we to be sorry that this drawer was overlooked in our daily survey of the cabinet? Separating disks are quite brittle and easily broken, so please let us govern our supply of them accordingly.

Crowns of any description suggested, or should suggest to us, a wire measurement will be necessary. Do we hasten to prepare the broach-holder, when the doctor is waiting for same, or are we the efficient dental nurse "speeding up" dentistry, by being ready? Let us therefore have two broach-holders already for use, the one containing a longer wire than the other, for molar teeth.

The patient has a mesial cavity in the lateral. While we are assisting in the preparation of same, are we also determining in our minds the shade or combination of shades of synthetic powder that will be required to blend perfectly with the tooth, or does our dentist have to give us that information? The

cavity, we remember, is a mesial one. This should immediately bring celluloid strips to our minds. Are they ready? Have we a good supply cut, and better still, are they already cocoabuttered, or have we to lose a little time during this procedure?

In this day, suturing has quite a prominent place, where extractions are concerned. Has the doctor any

delays in this particular, or can we be credited with foresight, in having two or three needles already threaded, and kept in a glass containing a solution of alcohol and glycerine?

"Time" means money. May we therefore have consideration of this fact, and try to "speed up" dentistry.

Camp Dentist Denies Guilt When Charged

*But Operatives Say He's the Man
Who Sold Them Dope*

Boasting again brought an alleged dealer in narcotics into city police court records recently.

Just as they had trapped a young girl into getting "dope" for them, in a previous case when she boasted how easily she could obtain any amount, so two R.C.M.P. narcotic squad agents, one a young girl, led Frank W. Tait, dentist at Dundurn relief camp in Regina on leave, to allegedly sell them morphine.

Tate appeared before Magistrate Turnbull and, through Wilfrid Heffernan, chose trial by jury, and pleaded not guilty to a charge of unlawful possession of morphine. R.C.M.P. Constable H. M. Upton, head of the narcotics squad in Regina, and Constable Campbell had found two "shots" of morphine, packaged, in his possession when they arrested him at 304 Scarth block, where he was staying with a married woman.

With Constable Upton still in the witness box, the preliminary hearing of the charge had to be adjourned to the afternoon.

The male police agent told the court he met Tate in the Scarth block on July 3, the married woman

introducing him as her "boy friend". Tate, in conversation, said he was a dentist and an American citizen. He boasted he could obtain drugs or "anything else they sell in a drug store" any time he wanted it. The agent said he had a sick friend badly in need of drugs and asked for morphine. Tate told him to return the following day. When he did, Tate gave him two pills of morphine, the agent said, telling him, "That'll do for a shot or two." When the agent tried to get some more dope, Tate agreed but became suspicious on delivery and asked to see the sick friend first. The agent informed his superiors and the arrest was carried out. The female agent corroborated the other's testimony.

Cross-examination by Mr. Heffernan brought several checks by the magistrate who finally grew exasperated at the continual use by Mr. Heffernan of the term, "boy friend". Finally he asked counsel for his interpretation of the term. After some juggling of words the court was informed it was "a person one is keeping steady company with".

When Tate was arrested, police had been informed he was a member of the department of national defence and employed at Dundurn camp.

REPORTS

Ontario Dental Nurses' and Assistants' Association

Treasurer's Report for the Year 1933-34

Madam President:

It is with pleasure that I present to you this, the third Annual Report of the Treasurer's Office. The financial statement as compiled by your Auditor is as follows:

30th April, 1934.

RECEIPTS

Cash in Bank 18 May, 1933..	\$295.42	
Convention Registration Fees, 1933	204.00	
Annual Fees from Local Societies, less Rebates:		
Toronto Branch.. ..	94.00	
Rebate	34.00	60.00
Kingston Branch	23.00	
Rebate	12.00	11.00
Hamilton Branch	17.00	
Rebate.. .. .	8.50	8.50
Ottawa Branch	16.00	
Rebate.. .. .	8.00	8.00
Essex County Branch ..	16.00	
Rebate.. .. .	8.00	8.00
London Branch	26.00	
Rebate.. .. .	13.00	13.00
Thunder Bay Branch ..	22.00	
Rebate	11.00	11.00
		119.50
Sale of Pin	.65	
Bank Interest	7.30	
		331.45
		\$626.87

PAYMENTS

Royal York Hotel re Convention	\$144.00
Entertainment.. .. .	23.00
Programmes	8.50
Convention Bars	16.20
Flowers	2.00
Mrs. Aitken, Reporting Convention	40.00
	233.80
Presentations to Retiring Officers.. .. .	4.50
Audit Fee	12.50
Expenses of Delegate to Chicago	60.50
Executive Dinners, re Meetings etc.. .. .	4.40
Stationery, Supplies, Reports, etc.. .. .	24.28
Postage, Sundry Cash Payments, etc.	36.84
Bank Charges and Exchange..	1.56
	144.58
	378.38
Cash in Bank, 30 April, 1934..	248.49
	\$626.87
Memo: Rebate due to Toronto Branch	13.50
Overpayment to Kingston Branch	.50

AUDITOR'S REPORT

I have made an audit of the Treasurer's books and records of the Ontario Dental Nurses' and Assistants' Association for the year ending 30th April, 1934. The receipts shown are those recorded in the Treasurer's books and records. I saw receipts for the large majority of payments made during the year. The above Statement is, in my opinion, a true and correct Statement of Receipts and Payments as shown by the Treasurer's books and vouchers.

K. EDDIS GREENWOOD,

Chartered Accountant.

15th May, 1934.

In moving the adoption of this report, may I offer my thanks to those who facilitated the keeping of the books by their hearty co-operation, naming specifically, you, Madam President, Members of the Executive and the officers of the local chapters. At the same time, may I suggest that the knowledge of the adoption of a fiscal year ending April 30th, be impressed on all Chapters, to the effect that fees will then be in the hands of the treasurer before that date, obviating the necessity of omitting names from nomination lists.

Also may I further suggest that officers of local chapters be again advised that full amount of fees be forwarded to Treasurer, and rebates shall be returned as speedily as possible.

M. Gertrude Wiggins,
Treasurer

Recording Secretary's Report

Madam President and Fellow Members:

May I submit the following report as Recording Secretary for the fiscal year of 1933 and 1934:

There have been five Executive meetings since the Convention of May, 1933, with an average attendance of six members, our Vice-President from Hamilton being able to attend two of these meetings. A sixth meeting was held Monday evening after the Reception Tea at Eaton's with representatives from nearly all the local chapters except the one newest and farthest away—that of Thunder Bay Association, which includes the twin cities of Port Arthur and Fort William, with a membership of eleven.

Two of the meetings were supper meetings—the others were held in the office of Dr. E. A. Grant, Medical Arts Building, to whom, at

this time, we would like to extend our thanks for his hospitality.

Local Chapters were not approached this year, but responded wonderfully to the call for clinics and papers, and we trust that in our efforts to arrange a slightly different program this year, that you will find it all both interesting and instructive.

May I report a paid-up membership of 94 active members, 1 honorary and 3 associate members, up to April 24th. This is lower than our report of last Convention, however. Registration is up this year, there being 148 registered up to yesterday noon—146 at the Complimentary Luncheon and at this Reception Tea Monday night.

Paid up membership from local groups, is as follows:—

Toronto, 38 active, 1 honorary, 1 associate;; Hamilton, 8 active, 1 associate; London, 13 active; Windsor, 8 active, 1 associate; Ottawa, 5 active; Kingston, 11 active, 1 associate; Thunder Bay, 11 active.

It has been a pleasure to act as Recording Secretary for this year, and I have had splendid co-operation from everyone—especially the Corresponding Secretary, who has carried so well the doubly hard task of working with one so far away and having to depend on letters for all her duties.

May I at this time express my appreciation to the other members of the Executive and to you all.

I move for the adoption of this report.

—MARION EDWARDS.

Corresponding Secretary's Report

Madam President and Members:

I beg leave to present the following report.

During the past year I wrote let-

ters to Dr. Martha Law, Mayor W. J. Stewart, Dr. C. Angus Kennedy, Dr. F. J. Conboy, Dr. Wallace Secombe, Dr. R. C. Willett, Dr. L. W. Morrey, Dr. D. C. Padelford, Mr. W. McTavish, and such occasional letters and reports as have been necessary.

I wish at this time to express my appreciation for the beautiful corsage presented to me yesterday at the luncheon.

Respectfully submitted,

GLADYS McMASTER,
Corresponding Secretary.

Toronto Chapter

*Report of the Toronto Chapter,
1933-34*

I am happy to report from the Toronto Chapter a very successful year. As each year goes by we are growing stronger and stronger, realizing fully that behind us stands our strong parent, the Ontario Dental Nurses and Assistants' Association.

We have held very interesting and instructive meetings, all of which have been well attended.

In June we received from Miss Luck, then our President, a splendid report of the second Annual Convention of the Ontario Dental Nurses and Assistants' Association. She also brought to us later on in the year a very interesting report of the visit she made to the American Dental Assistants' Association held in Chicago.

Our guest speakers during the year have included Miss Pearce from the League of Nations' Society, who was present in the visitors' gallery at the Peace Conference at Geneva.

Mr. C. A. McKenna and his son, Mr. C. G. McKenna, gave us a dem-

onstration, making a resovin denture.

We had a "Current Events Night" at which Miss Kathleen Martin spoke to us on "What had brought the different nations to their present state and what was being done about it."

In January, we had Mr. Butt on X-ray developing and mounting.

In February, Miss R. M. Beamis, Assistant Superintendent of the Western Hospital, addressed us on "Water and Its Uses". This meeting, I am sure, will remain with us for many a long day.

In March we held our annual dinner meeting. The speaker on this occasion was the Baroness de Huecke, a Russian refugee. She pictured very vividly to us the difficulties experienced by the new Canadians, who, far from families and friends in Europe, are trying to find their places in this land. Other guests at that meeting were Dr. Thom. Cowling, Dr. A. E. Grant, Dr. Martha Law, Dr. Conboy, Miss Eileen Bowden and Miss Dorothy Welsh.

In April Dr. G. F. Morton came to us with a very interesting paper on Economics, and at our last meeting in May Dr. H. Centre gave a splendid talk illustrated with models, on Casting Inlays and the making of clasps.

Our social activities have not been many. We added the sum of \$20.00 to our permanent fund for Orthodontia, the proceeds of a bridge held in January.

Our Orthodontia work for underprivileged children, started two years ago, is a work of which we are justly proud. To date we have helped two children to enjoy a happier life by the assistance we were able to give them in this way. Other beneficence included gifts of money to Miss Edwards for the Riverdale Neighborhood Workers,

and to the Baroness de Huecke for her social service work.

As the year closes may we wish for our parent Association every success for the coming year.

—JESSIE BROWN, Pres.

London Dental Assistants' Association

Report for Year Ending December, 1933

The second annual meeting of the London Dental Assistants' Association was held on Jan. 11th, 1933, in Wong's Café, the following officers being elected for 1933:

Pres., Miss Loretta McCaughey.

Vice-Pres., Miss Marion Buttery.

Secretary, Mrs. Helen Huyck.

Treas., Miss Ruth Collinson.

Social Committee: Miss Madeleine Moir (convener) assisted by Miss Irene Challoner and Miss Mildred Barnes.

Visiting Committee: Miss Mildred Granger (convener) assisted by Miss Jane Wells.

On February 13th, 1933, Dr. Gordon Cummings read to the assistants a paper on Digestion. The meeting was held in Dr. Fred Kennedy's office.

The March meeting was held on March 13th, in the office of Drs. Fuller and Giffen, when Mr. Geo. Tobey addressed the assistants on "How Teeth Grow", and the "Care of the Teeth", illustrated with film pictures.

The April meeting was held on April 10th, in the office of Dr. S. M. Kennedy. Mr. R. S. Wilson gave a talk and demonstration to the assistants on "Impressions and Models".

On May 10th, 1933, Dr. Harold Windrim spoke to the assistants on "Children's Dentistry". This meet-

ing was held at the home of Miss Mildred Granger.

A picnic at Springbank Park was held on June 21st, 1933. A report of the Convention in Toronto was given by Miss Loretta McCaughey. Mrs. Helen Huyck resigned her position as secretary; Miss Ruth Collinson accepted the position, Miss Irene Challoner taking over the duties of treasurer.

During July, August and September no meetings were held.

At the October meeting, held at the home of Miss Loretta McCaughey, addresses given before the Convention in Toronto, were read and discussed.

The November meeting was held on Nov. 8th, 1933, in the home of Miss Ruth Collinson, when Dr. B. E. Wilson talked to the assistants on "Seeing Ourselves as Others See Us".

Miss Mildred Granger entertained the members of the Association at a children's party on Nov. 15th, 1933.

In December several matters of business were discussed and settled. It was planned at this meeting to spend \$10.00 on a needy family at Christmas. It was moved by Miss Jane Wells and seconded by Miss Carrie Healey that the present officers remain in office during the year 1934.

There were nine regular meetings during the year with an average attendance of 11. Six new members were added to the roll.

Receipts	\$108.37
Expenses	67.26

Balance on hand	\$ 41.11
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The third annual meeting of the London D.A.A. was held the second Wednesday of January in form of a dinner at Wong's Café, the officers of 1933 remaining in office.

The February meeting was held in the office of Dr. Taylor. Dr.

Taylor spoke on "Early Dentistry".

The March meeting was held in the office of Dr. Hayden, Rev. M. Bowen giving a very interesting talk on "Rambling Through Alaska".

In April Dr. S. R. Moore spoke on "Primitive Religion. The meeting was held in Dr. Fred Kennedy's office.

In April Miss Mildred Granger entertained the Association and friends at a card party in her home.

The May meeting, where Convention plans were discussed, was held in the home of Miss Loretta McCaughey. Miss Carrie Healy was delegated to attend the Convention.

Money received	\$89.11
Expenses	53.50
Balance	\$35.61

Kingston Dental Assistants' Association

President's Report

The annual meeting of the Kingston Dental Assistants' Association was held on Monday evening, October 16, 1933, in the Chamber of Commerce rooms. The following officers were elected for the year:

President—Miss Daisy Gibbs.

Vice-Pres.—Mrs. Doris Moore.

Secretary—Miss Elsie Jarvis.

Treasurer—Miss Kathleen Flynn.

Social Committee—Miss Bertha Hall, Miss Lily Merritt.

Sick Convener—Miss Eileen MacLaren.

Program Convener—Miss Florence Finn.

Miss Flynn gave a delightful reading on "Speeding up Dentistry", and Miss Gibbs gave a demonstration on making "Absorbent Points".

On Monday evening, Nov. 20th, the meeting took the form of a party held at the home of the President, Miss Daisy Gibbs. Also a subscription was taken up for the Victorian Order of Nurses for Christmas.

A special meeting was called on Nov. 27th, in the Chamber of Commerce rooms. Dr. S. P. Greaves of the Cook & Waite Co., Toronto, gave an interesting talk on "Local Anaesthesia. Mr. Musselman of the L. D. Caulk Co., also delighted the Association with a few words.

On Jan. 22nd, 1934, a meeting was held in the Chamber of Commerce rooms. A lovely letter from Miss Brown of the Toronto Association, was read by Mrs. Dewar.

On Feb. 19th a meeting was held in the office of Dr. J. C. W. Broom. Mrs. G. C. Dewar gave a very interesting talk on "Inlay Work".

A very pleasantly arranged bridge and euchre was held on March 19th at the home of Mrs. R. Moore, Albert St.

On April 16th a business meeting was held in the office of Dr. J. C. W. Broom, Wellington St.

DAISY K. I. GIBBS,
President.

Essex County Dental Assistants' Association

Summary of Activities for the Year 1933-34

The following is a summary of the Essex County Dental Assistants' Association activities for the year 1933-34.

A very busy year was enjoyed by the Association. In December a meeting of the Detroit, Toledo and Windsor girls was held in Toledo, Ohio. This meeting proved valuable in promoting a friendship between the Association of the two countries and very many interest-

ing ideas were exchanged. Mr. Knoll of the Knoll Laboratories, Toledo, gave a very interesting and instructive lecture and clinic on Oralium. The meeting extended over two days and the whole time was thoroughly enjoyed by all.

The Association raffled off a comforter in December, donating ten dollars of the proceeds to the Border Goodfellows to help with Christmas charity.

Tooth brushes and tooth paste were donated to the children of the Shelter for Christmas. These were very badly needed and were greatly appreciated.

In February a successful Dinner Dance was sponsored by the Association, a portion of the proceeds being donated to charity. This affair was held in the Norton Palmer Hotel, with four local dentists and their wives lending their patronage.

A number of Court Whist parties were held during the year, which helped the Association's financial status greatly.

Interesting and instructive talks were given during the year by Dr. Lees of Windsor on Anaesthetics and Dr. Lane of Detroit on The Duties of a Dental Assistant.

In conclusion, I must say that the meetings we as an Association enjoyed with the girls of the other cities, convince us that the members are all willing and anxious to make their respective Associations a success.

Hamilton Chapter

*Report of Activities from October, 1933,
to May, 1934*

For the first meeting a Mr. Harp- gave a practical demonstration in his own lab. on "Polishing of Dentures, and Inlay Casting".

Second: Miss Riddell from the College, spoke on "What the Dental

Assistant should know of the Practical Application of Bacteriology to Dentistry".

Third: Papers given by convention speakers were read by the members of the Association.

Fourth: Dr. Burke of McMaster University spoke on Science and the origin of commonly used medicines.

Fifth: Miss Carter of McMaster University gave an interesting talk on "Austria".

Sixth: A "Court Whist get acquainted party" was held, prizes were given and refreshment served.

Seventh: Mr. J. D. Webb of the Dental Co. gave a practical demonstration of the "Care of Electrical Equipment". A charity bridge was given by the Association in November, the proceeds defraying the expenses of baskets for five needy families, and a donation to unemployed business girls.

The number of members in our chapter is 33—average attendance 23.

Thunder Bay Dental Assistants' Association

President's Report

The Thunder Bay Dental Assistants' Association is a new organization including the Dental Assistants of Fort William and Port Arthur. We owe our formation entirely to the efforts of Mrs. Edwards and Miss Seminuek. While we are not there to do this duty for ourselves, we should be very pleased if you would give them a hearty hand-clap for us.

Our work program for the Association has not been very extensive for the past year. We have spent a good deal of our time getting acquainted with each other. We had three splendid talks during the year; Dr. K. W. Hettenhausen

gave us one on "Orthodontia"; Dr. M. L. Stitt gave us another on "Some of the Duties and Qualifications of a Dental Nurse"; and Nurse Chivers-Wilson gave us another on "Cleanliness". The balance of our time was spent studying Convention Reports and material that Mrs. Edwards so kindly

sent us. We now realize what it is all about and are making plans for a bigger and better year next year.

May there be many more new Dental Assistants' Associations formed to derive the benefits and good fellowship that we have felt.

Gladys Hill, (Pres.)

Report of the American Dental Assistants' Association

Chicago, Illinois, 1933

At the outset of a necessarily brief and somewhat sketchy report of the 9th Annual Meeting of the American Dental Assistants' Association, held in the Hotel Stevens, Chicago, Aug. 7-12, 1933, may I express to this organization my appreciation of the privilege of conveying your greetings to the more than 200 delegates to that National gathering. In addition to your President, the Ontario Dental Nurses' and Assistants' Association was represented by Miss Ellen B. Tuck, whose expenses were paid by the Toronto Chapter. Whether or not it be true that "two can live as cheaply as one", it certainly proved to be true that two, traveling together, were able thus to make common savings in our expense accounts, to the financial advantage of both organizations.

This report is exceedingly condensed, but those who wish fuller information regarding any points to which I may refer, or indeed to other suggestions to which there is not time to refer, are perfectly

welcome to consult me or my Convention notes, which are quite detailed.

In connection with the Convention, two social events were greatly appreciated by your delegates. The first of these was tendered to all delegates and guests by the Chicago Dental Assistants' Association, who entertained us all at dinner on the evening of August 7th, at the Pagoda Inn, this being followed by a conducted tour through "Chinatown", including the luxuriously furnished Merchants' Club, and Chinese Y.M.C.A. The other social event was the annual banquet—a gala affair on the evening of August 8th. On this occasion the guests included the officers of the Centennial Dental Congress and their wives, the Chicago and the American Dental Associations, the American Hygienists' Association, and the editors of well-known Dental Journals. It is not exaggeration to say that "a good time was had by all".

On account of the Century of

Progress Exhibition, the convention meetings were held half-days only, thus giving the delegates "time off" to visit the Exhibition.

The opening business session of the Convention was held on the morning of Tuesday, August 8th, when the two Canadian delegates were invited to occupy seats on the platform. One of the most impressive features of the sessions was the exceedingly competent and dignified manner in which the business was conducted by the National President, Miss Ruth Rogers. Each of those who participated in the programme, speaking for her own Society or State, seemed to catch the spirit of competent assurance, which contributed much to the efficiency of the session.

The paper on "A Quarter of a Century of Progress" traced the ascending importance of the nurse from the earlier position of merely the general office "boy", to her present status of dignified and indispensable co-operation with her doctor. "Progress" being the watchword of our time, it stressed the advantage of study groups for mutual consultation, discussion and improvement.

The afternoon session on Wednesday began with the usual formal, but hearty, addresses of welcome, after which it was easier to feel that our presence had really been desired and was also appreciated.

The President of the American Dietetic Association then gave an address on "Diet in Relation to Dental Conditions", particularly stressing the necessity of (1) a balanced diet, (2) an adequate diet, (3) a varied diet, not omitting proteins. It was pointed out that commercial calcium tablets are too slow to take the place of milk, and that as it is not yet certain what effect the concentrated foods produce upon the system, they should there-

fore be advised only with great care. Another interesting point in this address was that feeding problems among children are often the results of the ideas and attitudes of parents, even though expressed by a gesture, or an inflection of the voice. The adult attitude must therefore first be conquered.

"The Management of the Nostrum Racket" consisted of a series of general, but exceedingly clever witticisms on the (supposed) "Magic Fountain of Perpetual Youth". One could easily recognize the "ads" for mouth washes and toothpastes:—"Three shades whiter in three days," etc. Toothpaste can be made for 3c per tube—or even for as little as 21c for a barrel. It is therefore most important to protect our patients from injurious preparations.

In the paper on "Early Evidence of Malocclusion" the statement was made that possibly before the dentist thinks he can afford the assistance of a keen, well-trained nurse, he certainly is in real need of service which she can render. She can do much to detect bad habits in his child patients, an example given being that of the abnormal muscle action of the lips, which yields to treatment if noticed early.

The Presidential address of Miss Ruth Rogers followed, in which she looked forward to the day of the Dental Nurses educated under supervision, either state or national.

After her address the Canadian delegates were asked to speak, which they did, briefly, and to the best of their ability. During this part of the programme the delegates did not leave the Convention Hall in large numbers—which was encouraging.

Thursday's sessions began with a discussion of the "Duties and Responsibilities of a Dental Assistant", which were summed up as

consisting of adequate education and training, efficiency, loyalty and cheerful service to both doctor and patients.

This was followed by a paper on "Child Management", the highlights of which were to the effect that it is the duty of the assistant to win the confidence of the child for the dentist, who is naturally the most important person in the office. Treat the child as your equal, and recognize the sensitiveness of childhood to ridicule.

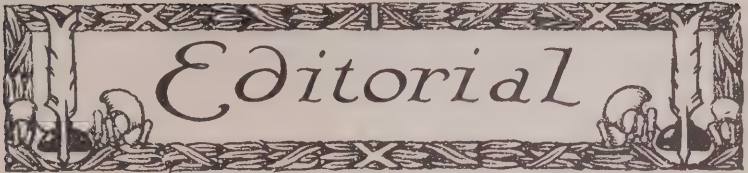
This was succeeded by "The History of Anaesthesia", which has already been given in full at our own Convention by Miss Flack.

At the conclusion of the District Luncheon in Harvey's Restaurant, the gathering was thrown open for discussion on the subject of "Suggestions for Maintaining the Interest of your Members". Points brought out in discussion included the following:—Select topics of interest other than those relating merely to dentistry, including ethics, etc. Have women speakers as well as men. Have social functions, membership contests, talks on loyalty. We "can't look down in the mouth, even if that is our job". There is a new deal on. Let us forget the past, and endeavor to keep our members encouraged. Any member who can do so effectively might give a clinic. Suggestions for effective class work included vulcanization, first aid, child psychology, bacteriology, lab. assistance, porcelain glazing, X-ray, English grammar, public speaking, even travelogues. The Nebraska Association reported that they gave small cards of recognition when

each improvement course had been completed.

On Friday, the second last day of the Convention, it was divided into five discussion groups, each under competent leadership. The participation was both general and hearty. In the Secretarial group, one of the important questions was "What is the correct thing to say to the Governor and the Mayor?" The Chairside Assistance group stressed the personal appearance and greetings of the nurse. *Laboratory Assistance* (cautioning against too much haste) and *Orthodontia* were demonstrated by clinics. A steel die was recommended for names. Among the practical suggestions on *Nursing in Relation to the Dental Office*, were (1) Pure grain alcohol will keep organisms inactive only till they come in contact with heat. The proper solution is 70% diluted from pure grain in sterile water. (2) After trench mouth use 4 drops carbolic acid in one pint of water, —formaldehyde or St37. (3) Lancets should be boiled for 10 minutes, then plunged at once into cold, sterile water, then left in Abbott's solution. (4) Where soap is required, green soap tincture is advised.

Table clinics on Saturday morning terminated the Convention; much of the detail of these has already been demonstrated in our own clinics. May I again express my gratitude to this Association for the privilege of representing it and the hope that at least parts of this report may prove helpful and stimulating to our membership.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

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NO. 8

Red Medicine!

Sir Arthur Newsholme has given us very little on dental services in Russia in his new book. It is rather disappointing that a critical survey of dental development in Soviet Russia was not given as part of his medical survey from Leningrad to the Crimea. About all he relates is a generalization as:

"Dental service is admittedly inadequate, particularly in the rural regions. It is our impression that a demand for dental care is being fostered through education and that corresponding measures are taken to train a professional personnel and to increase the number of dental clinics."

A footnote quoting a letter from Dr. Alfred Owre is given for the information obtained. Dr. Owre is in Russia at present and he says:

"The achievements to date, in spite of tremendous handicaps, are remarkable. Several men I have talked with, all M.D.'s, have carried on large scale experiments in fundamental phases of dental practice. I was astonished at the ingenuity shown in overcoming technical difficulties, for instance the use of chrome and rustless steel in place of gold and platinum for prosthetics."

Dr. Owre relates a plan to train 10,000 students on a three-year course in technicums during the next five years. Preliminary education to be the same as for university entrants, the course to be as for the D.D.S. but without a degree. After three years' service in an outlying district they may return to university for scientific study. There they will help in a clinic part of the day and evening. In three and a half to four years they may complete the work for a medical degree. Examinations are stiff. In one remarkably well organized laboratory he saw turnout records of 35,000 dentures and 7,000 bridges a month. All simpler forms of dentures are practically free, fancy pieces selected in place of simpler forms are charged for. All education is free. (Extract, L. Mc.)

DENTAL SOCIETIES

Nova Scotia Dental Association Convention Held in Halifax, July 23rd, 1934

Dr. H. S. Crosby, of Halifax, was elected president of the Nova Scotia Dental Association at the opening session of the 44th annual convention held at the Dalhousie Dental College in Halifax.

Dr. V. D. Crowe, Truro, was chosen senior vice-president, and Dr. V. C. Calkin, New Glasgow, junior vice-president.

Dr. J. Stanley Bagnall, Halifax, was re-elected secretary.

Biggest in Years

With more than fifty representatives in attendance, the convention was the most largely attended in the past six years.

Dr. W. H. Mulhall, Liverpool, retiring president of the association, outlined the activities of the association during the year and the technical advances made. Other reports submitted, all of which were of a technical nature, included those of the Secretary Registrar of the Provincial Dental Board: Dr. C. B. H. Climo; report of the Dominion Dental Council delegate, Dr. A. W. Faulkner, and the report of the Oral Hygiene Committee.

The afternoon sessions consisted of clinics—a prosthetic clinic conducted by Dr. Cole, and table clinics in technical subjects conducted by Dr. G. A. Chudleigh, Dr. H. M. Eaton and Dr. V. C. Oxner.

The following day's sessions opened in the morning with clinics followed by a business meeting in the afternoon. At 3 o'clock, there was a golf match, and in the evening a dinner and dance at the Ashburn Golf Club.

Other Officers

The remainder of the slate of officers is as follows:

Executive Committee—Dr. H. S. Crosby, Halifax; Dr. V. D. Crowe, Truro; Dr. J. Stanley Bagnall, secretary, Halifax; Dr. V. C. Calkin, New Glasgow; Dr. F. R. Duxbury, Canning.

Dominion Dental Council Representative—Dr. George Kerr Thompson, Halifax; Dr. W. C. Oxner, alternate, Halifax.

Canadian Dental Council Representative—Dr. A. W. Faulkner, Halifax; Dr. S. G. Ritchie, alternate, Halifax.

Provincial Dental Board—Dr. W. W. Woodbury, President, Halifax; Dr. W. H. Beckwith, vice-president, Halifax; Dr. W. C. Oxner, Halifax; Dr. T. Melanson, Yarmouth; Dr. J. P. Parker, Sydney; Dr. W. H. S. Gray, Halifax; Dr. C. S. McArthur, Truro; Dr. C. B. H. Climo, secretary-registrar, Halifax.

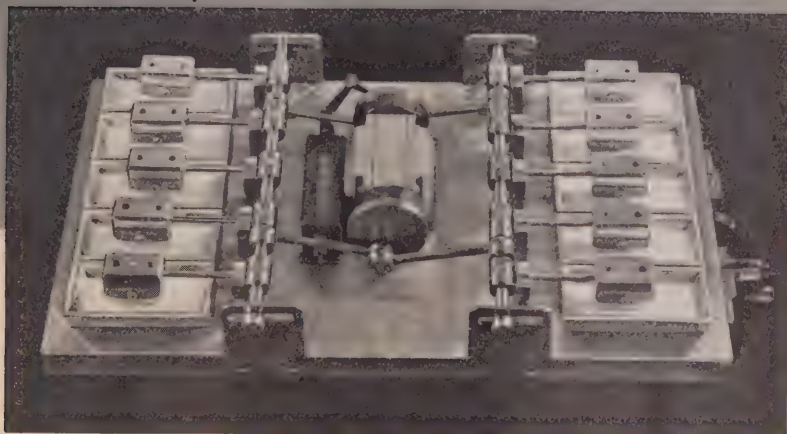
Executive of Oral Hygiene Education Committee—Dr. George Kerr Thomson, Halifax, chairman; Dr. S. G. Ritchie, Halifax; Dr. F. W. Johnson, Halifax; Dr. H. O. Harding, Yarmouth; Dr. A. W. Faulkner, Halifax; Dr. G. M. Logan, Halifax; Dr. S. K. Oldfield, Halifax; Dr. G. K. MacIntosh, secretary, Halifax.

Those Attending

Dentists attending the convention who had registered were:

L. M. Baxter, Halifax.
V. C. Calkin, New Glasgow.
G. A. Chudleigh, Halifax.
C. B. H. Climo, Halifax.
O. L. Croft, Halifax.
H. S. Crosby, Halifax.
V. D. Crowe, Truro.
R. R. Dalgleish, Sydney.

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the comparative safety of Pepsodent . . . is now available. The facts are shown with scientific accuracy in a bulletin which outlines the results of an extensive study, recently completed by the Research Laboratories of The Pepsodent Co. This bulletin is creating interesting discussion in dental circles because of the specific findings recorded. A copy of the bulletin has been mailed to every member of the dental profession. If you have not received yours, a post card will bring it.

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 W. L. Fluck, Halifax.
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 A. C. Hayford, Mahone Bay.
 G. R. Hennigar, Halifax.
 A. F. Hofan, Weymouth.
 L. D. Kay, Sydney Mines.
 R. M. Langille, Truro.
 N. McG. Layton, Truro.
 G. M. Logan, Halifax.
 I. K. Lubetsky, Halifax.
 G. K. Macintosh, Halifax.
 G. P. MacIntosh, Parrsboro.
 C. E. McLaughlin, Halifax.
 D. L. MacLean, Port Hood.
 D. R. MacLean, Sackville, N.B.
 J. D. MacLean, Pictou.
 G. C. Macleod, New Waterford.
 J. A. MacLeod, Sheet Harbor.
 W. H. Mulhall, Liverpool.
 M. P. Nichols, Aylesford.
 G. W. O'Brien, Amherst.
 S. K. Oldfield, Halifax.
 W. C. Oxner, Halifax.
 J. H. Rice, Halifax.
 S. G. Ritchie, Halifax.
 G. A. Sproul, Springhill.
 R. H. Stanford, Dartmouth.
 O. C. Taylor, Glace Bay.
 G. K. Thompson, Halifax.
 K. F. Woodbury, Halifax.
 W. W. Woodbury, Halifax.
 W. H. Young, Kentville.

—●—

Dr. J. M. Dixon Named Head of Dental Society

Dr. J. M. Dixon, Calgary, was elected president of the Alberta Dental Association at the annual meeting held in Edmonton. He

succeeds V. H. Macaulay, also of Calgary.

Dr. P. McNichol, Lethbridge, was named vice-president, while Dr. A. B. Mason, Edmonton, and Blair Paterson, secretary-treasurer and solicitor respectively.

Members selected Lethbridge for their annual meeting next June. The semi-annual meeting of the provincial board will be held in Calgary next January.

Dr. J. W. Allen, of Lethbridge, was named association representative on the Dominion Dental Council, while Dr. Macaulay will represent the association on the Canadian Dental Association. Dr. Mason was appointed representative on the University of Alberta Senate.

In the evening, visiting members were guests of the Edmonton Dental Society at a banquet.

—●—

Hamilton Dentists' Annual Outing

Members of the Academy of Dentistry of Hamilton held their annual picnic at the country estate of Dr. R. T. MacDonald, Ancaster.

The country boys, captained by Dr. Charles Wray, defeated the city "slickers" captained by Dr. Hatton Robertson, in a free-scoring baseball game.

Horseshoe contests were so close that members feared the horseshoes would be used to settle the arguments.

Dr. Earl Jackson, president, was in charge.

—●—

Miss M. E. Grierson, school nurse, has recommended the formation of a dental clinic for the schools in the Mission district, B.C.

—●—

The new East End dental clinic in Hamilton, Ontario, is under the charge of Dr. Walter Manning and Dr. J. W. Bell, jr.

Doctor_____

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Artificial Teeth for Indigents

As the original estimate was not sufficient, Board of Control authorized Welfare Commissioner A. W. Laver to expend an additional \$1,000 for the provision of free dentures for indigents receiving treatment at the dental clinic.

Originally, \$2,000 was appropriated—to provide 25 dentures per month at a cost of 10 dollars each for the eight months ending December 31. The further appropriation will provide 25 additional dentures per month for the remainder of the year.

—●—

Appeal Allowed to Two Dentists

Dr. Gaspard Fauteux and Dr. Noel Decarie were given permission by Mr. Justice St. Jacques to appeal to the Appeal Court from judgments rendered against them in the Superior Court. The Superior Court judgments had refused the request of the dental

surgeons for writs of prohibition to prevent the Council of Discipline of the College of Dental Surgeons from hearing charges against them.

OBITUARY

Dr. Charles O. Fallis

In failing health since the death of his wife in November of last year, Dr. Charles O. Fallis, 183 Geoffrey Street, dental surgeon, died recently in his 54th year. He was born in Cartwright Township, Durham County, where he received his primary education and graduated from the Ontario Dental College in 1904. He had been in active practice ever since. He was a United Churchman and a member of Alpha Lodge, A.F. and A.M. Surviving are three children, Mrs. F. O. Gallagher, Toronto; Margaret and Charles at home; one sister, Miss M. Rowena Fallis, Toronto, and a brother, Errol Fallis, Valentia, Ont.

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ORIGINAL CONTRIBUTIONS

Local Anaesthesia Without General Systemic Action

*By M. le Dr. Schneider,
Luxembourg*

Translated by
Dr. J. H. Johnson

The action of local anaesthetics on the general system is an undeniable fact of regular appearance, and constitutes a real inconvenience, sometimes a danger. It is the adrenalin which is the essential cause of it. They have tried to combat it by administering analgetics, by replacing the adrenalin by a substitute and by diminishing the toxicity of the adrenalin. The three groups of research workers have already obtained some results worthy of attracting the attention. In the first group we must mention the action of cardiozol and camphorated validol, in the second, ephedrin and particularly corbasil, and in the third, the results given by a freshly prepared isotonic solution of low adrenalin concentration by means of ampules of a new conception.

Local anaesthesia, the way it is currently practised in dental art by the injection of a solution of novocaine-adrenalin, provokes regularly on the part of the organism a group of reactions of the general order

called haemodynamic, concerning the nervous system and the circulatory system more particularly. Personal experience permits a better evaluation and judgment of their proper proportions and moral effects. It had happened to most of us to have a local anaesthetic injected into ourselves for treatment, or the extraction of a tooth. Have we not been surprised to feel ourselves overtaken in the course of the injection by discomfort, a slight seizure with a sensation of disquiet, with palpitation, tachycardia, a feeling of oppression, and a slight trembling of the hands and limbs? The most robust, the least effeminate, the best prepared, have not been exempt from it, with rare exceptions. It is frankly disagreeable.

These are the habitual subjective symptoms which almost all our patients feel with an individual variable intensity, following a local anaesthetic. They are rarely, let us repeat, lacking entirely. It is necessary to add here some objec-

tive symptoms which are also regular, the pallor of the face, the haggard expression, the dull cornea, and many times horripilation and sweats. These things pass in five or six minutes ordinarily. They do, in some more rare cases, not end here. The pulse then becomes small and soft, the patient is seized with dizziness and slips into collapse. The incident, which can be accompanied or followed by nausea, violent, persistent headache, and a prolonged pre-synopal state, is most often of a mild degree. It can, very exceptionally, become acute and be a serious accident. Happening all at once at the beginning of the injection, or toward its finish, or after, it presents itself most often under the form of convulsions, cyanosis, loss of consciousness, and in the end, prostration lasting some hours or some days. Some fatal cases have been reported.

Here are the facts. The dental practitioner has them before his eyes every day, in their simple forms at least. They must be met with also among the other specialties, each time that local anaesthesia is employed in the same circumstances. It is quite certain that latterly they more particularly concern the dentist. Dental care is generalized, local anaesthesia is more frequently employed, and our attention, awakened by experience, causes us to multiply our observations. But it is particularly the observations of our patients themselves which have become more frequent, more justified also, I believe. The clientele, and more particularly the persons of elevated social rank and the intellectuals, tell us more and more often of the extreme disagreeableness of local anaesthetics. They understand by it solely its effects of a general nature on the system, not the pain of the puncture nor the rest of the local sensations. They are clear

on this point. Local anaesthesia is for them far from being a pure benefit, and the greater part apprehend it. So much so that certain already refuse it and accept sooner the pain of the operation, drilling, grinding, and even extraction, or else abstain from recourse to the cares of the practitioner. This resistance is one of the reasons of the reviving vogue of analgesia and general anaesthesia with nitrous oxide and ethyl chloride under the form of Gewaethyl (Austria) and of Somnaethyl (Germany). Some attempts are actually made in Germany for the introduction into dental practice of general anaesthesia of fifteen to twenty minutes' duration by the intravenous injection of an anaesthetic called Evipan. All these facts, which are picked up from all parts, are only entirely explained if one considers the nervous wear and tear due to our agitated and disquieted life. One must admit that life has established in our contemporaries an increased and growing sensibility in regard to the general action of local anaesthetics.

However, the recent papers published by the authorities on local anaesthesia, do, after all, take into small account the repercussions of a general order. If the rules are slightly observed, the unfortunate general phenomena seem to become non-existent, apart sometimes from some insignificant symptoms. It has also been given to me to observe that the greater part of the students at the end of their studies have only an imperfect notion of their frequency, and of their importance in practice. How many times have I witnessed their astonishment on seeing later in practice these reactions occurring regularly indisposing the patient physically and morally, and constituting a worry for the practitioner. The question is treated without doubt with a circumspection that

it does not merit, and which is astonishing at first view. The reasons must be multiple. Science, one must believe, has its coquetry when it appears to present its findings, and the manufacturers of drugs have an adroit solicitude for their own interests. Thus, from different motives, we are not always informed of all the aspects of the ideas and of the products. Moreover, a prime factor, the working conditions of the University instructors is different from that of the practitioners on some essential points, a truism on which we must depend, for it explains very many things. It is certain that the general effects of local anaesthetics are observed less at the University clinic. Major surgery has always followed the rule of Reclus of operating in the horizontal position. The professors of dental surgery, if they cannot adopt this method for the entire duration of the operation, have frequently the habit of placing the patient prone as soon as the injection is made. Their anaesthetic solutions are, so to speak, always freshly prepared, a detail of the greatest importance, as we are going to see. Finally, the morale of their patients is noticeably better than that of the patients outside. The security of the surroundings of University quarters, the authority and personality of the professors reassure the patients to a degree that one hardly experiences in private practice. Their anxiety in waiting is less, and the potential of their psychic and physical resistance is higher. By self pride also, in face of the numerous and impressive assistants, they wish to avoid all signs of weakness. They will be brave, they will mobilize all the reserve of their forces. They are not the same patients as those of the general practitioner. Their reactions cannot serve as a basis to appreciate the measure of the general repercussions common-

ly set up by local anaesthetics.

All these facts, which it seems should have been considered, have only recently been taken into serious consideration. The observations and criticisms of the practitioners have multiplied, and have finished by drawing the active interest of qualified clinicians and pharmacologists. Systematic researches have been begun on numerous sides, in France, in America, in Germany in particular, with the view of getting rid of the general troubles which accompany local anaesthesia.

They have first concentrated on discovering exactly what brought about this general action. Was it solely or in part some phenomena of emotive shock, some phenomena of intoxication by the novocaine, by the adrenalin, some phenomena of anaphylactic shock perhaps? What part, if it were so, could be due to each of these factors?

Emotive shock is an element which always interferes. The psychic factor will not be suppressed. The fear which seizes the patient at the threshold of the dental office at the sight of the apparatus and instruments, at the odor of drugs and finally the pain of the puncture puts it in action. Its manifestations are explained according to Cannon and La Paz by the increase in the amount of adrenalin in the blood, an augmentation which is a function of fear. To measure the strength of it, Bauer, (Budapest) has made some observations of great interest in 1929. With numerous patients who came to the dental clinic he practised injecting one-half a cubic centimeter physiologic serum about a quarter of an hour before the anaesthetizing injection, and without informing the patient of the nature of the first injection. He took the blood pressure several times and observed the patient. Result: Each patient has presented

after the injection of serum an increase in blood pressure of 6.1 per cent. to ten per cent. over the pressure before the injection, an average of 6.5 per cent. In each case also there occurred an acceleration of the pulse, after all quite variable. Apart from that, the phenomena of a general order were rare and slightly in evidence. It is a question, concluded Bauer, of effects of a purely nervous nature related to hyperadrenalism, of which the origin is fear. Emotive shock, then, must play a preparatory, adjuvant role in the general action of local anaesthetics, but its influence will be exercised in relatively narrow limits, save in exceptional cases.

Clinical experience confirms these findings. The personality of the operator and doses of sedatives, notably barbituric derivatives taken half an hour before the operation, have the effect of diminishing considerably or suppressing the emotive shock. However, that does not prevent, as we know, local anaesthetics from producing in each case its customary general effects with slight variation.

Novocaine and adrenalin are the usual products in our anaesthetic solutions. The novocaine (or allocaine, anethocaine, neocaine, procaine, scurocaine, syncaïne, etc. . .) possesses a very slight degree of toxicity, and a group of qualities which should make it always preferable to the numerous successors tried in recent years, butelline, larocaine, panthesin, pseudocaine, psicaine, tutocaine, and others. Its concentration in dental art runs from two per cent. to five per cent. The amount of two per cent. is surely harmless, but would not those of three, four and five per cent. be so excessive that we sometimes suspected them? These concentrated solutions justify themselves in dental art by the necessity of regularly anaesthetizing thick

osseous layers and large nerve trunks. The five per cent. solution is used nowhere but in France, where for twenty-five years thousands of practitioners have used it daily for all pulpal anaesthesia, that is to say, in a great many cases. In this country where the clinical spirit is informed, they certainly would not have escaped with this if the concentration of five per cent. had caused general troubles. One generally injects only one or two cc. of it at the most. This amount, even in the high concentration should remain without trouble, for this reason, that their absorption is very slow as the result of the vasoconstricting barrier of the adrenalin. The low toxicity of these solutions is established further by the experience of practitioners who, through fear in regard to adrenalin, frequently use solutions of novocaine alone in concentrations reaching as high as five per cent. The quality of the anaesthesia is evidently less good, but the general phenomena are entirely lacking. In this way of thinking the two cases published some months ago by the oto-rhinolaryngologist Hallé are quite instructive. Williger and Hallé had injected in two patients by mistake a solution of five per cent. novocaine in place of 0.5%. Hallé's patient had received 300 cc. of this solution, that is to say, 15 grams of novocaine. The two patients presented almost the same symptoms of intoxication, first a state similar to a fit of maniacal fury, and then a state of sleep for six hours. There were no further consequences. One knows the tendency of the practitioners in Germany to employ weaker solutions. They had admitted in 1912 that the usual solution of 1.5% was normally sufficient. They renounced it some years later in favor of the 2% solution. Since 1923 the four per cent. solution is in common use there for pulpal

anaesthesia. Recently a movement is noted there for the use of the five per cent. solution, with the view particularly of being able to diminish the amount of adrenalin or of replacing the latter by a less toxic successor, or furthermore, of diminishing the total volume of the solution injected.

However, since novocaine always remains a poison, its concentration should not be entirely neglected. In high concentration it must favor in a certain measure, slight, it is true, the manifestation of general reactions of the organism in regard to the local anaesthetic.

Local anaesthesia in dental practice should associate novocaine and adrenalin for imperious reasons well known. It is necessary to retain the anaesthetic in place so as to obtain an anaesthesia of sufficient intensity and duration. The sensitivity of the dental tissues, which it is a question of combating, is extreme, and the gingival tissue is abundantly vascular. Now it is with the indispensable adrenalin and through it certainly that the greater part of the complications happen. On this subject there is general accord today. The haemodynamic action of local anaesthetics may be essentially imputed to the adrenalin.

The absorption of adrenalin injected into the gingival mucosa is singularly rapid. Schubert has shown at the beginning of this year by some comparative experiments on students that it acts more quickly and differently when the solution is injected in the buccal mucosa than in sub-cutaneous injection in the arm. It is the scientific confirmation of the impression formed by numerous clinicians that the effects of adrenalin injected in the mouth and in the naso-pharynx were more distinct and powerful.

The local vasoconstriction is followed immediately by general

peripheral vasoconstriction. There is "gooseflesh", pallor of the skin, increase in blood pressure, acceleration of cardiac rhythm, palpitation, anxiety, dyspnea, and trembling. It is more active among persons of which the vagus nerve is particularly sensitive and also among aged subjects, in hypertension, exophthalmic goitre, and persons with defective cardiac-vascular mechanism. The intimate mechanism of the central action of adrenalin remains obscure. It is a fact that doses twenty times greater are employed with success, particularly against cardiac weakness, or per os in the case of hemorrhage of the digestive tract. The trifling quantities injected by the dentist—one-third to one drop of a 1:1000 solution per cc.—have effects opposite to those set up by large quantities. One is inclined to admit that an excitation of the suprarenal glands is set up by small doses of injected adrenalin, an excitation which causes a superabundant, untimely secretion of physiologic adrenalin. Hence, abrupt hyperadrenalinism explains very well the greater part of the general phenomena.

The hypothesis has been advanced that it might be possible to have sensitivity of the organism in regard to adrenalin through the presence of novocaine. This opinion is supported by two facts less well known. Tellier and Beyssac, of Lyon, following the work of Besredka, have been able to show, as Kantorowicz and Canyt had already shown, that one avoided in part the general accidents due to the adrenalin if, to the patient that one knows or supposes to be in good condition, one injects first, two or three drops of the anaesthetic solution with adrenalin, and the balance three or four minutes later. This is fractional injection, which should merit being generally practised. Besides, in his thesis at Lyon last year, Agniel has related

his experience with novocaine-adrenalin in anaesthetic solutions in an anti-shock vehicle, in the nature of an aqueous solution with five per cent. of hyposulphite of magnesium. This combination had given him results which were clearly better than the solutions without magnesium. The manifestations of a general order have been rarer, and less accentuated. They were completely absent among a certain number of patients who were particularly sensitive to the action of anaesthetics. These recent experiments demand that they be continued and controlled by future research, which may prove fruitful.

When we speak of local anaesthesia, it goes without saying that it is a question of anaesthesia executed in conformity with the rules of good technique. One will pay attention notably to carrying on the injection very slowly, in two stages and at the rate of one cc. per minute. Previously one should not have neglected the psychic preparation of the patient. At the moment of choosing the composition, the concentration, and the dose of the anaesthetic one will individualize, and will take into particular consideration the constitution, the general state, the age, sex, the condition of the nervous system, the organic condition of the cardio-vascular system, of the kidneys, of the thyroid, and in general, all the signs of diminished resistance.

It being understood that the general effects of local anaesthesia are essentially due to the toxicity of the adrenalin, and that the adjunction of a synergistic vasoconstrictor to the solution of novocaine is indicated, they have considered three methods to battle against the general action of the solutions: Either neutralizing the effect of it on the patient, or else replacing the adrenalin with a vasoconstrictor as

active, but lacking general effects, or finally, by diminishing the degree of toxicity of the novocaine-adrenalin solution.

The first is the more accessible to the practitioner for his researches. The fractional injection in two stages causes the general phenomena to diminish, as we have seen, but it is far from abolishing them. Injecting with the patient in the horizontal position, in accordance with the rule of Reclus, had an appreciable effect in a prophylactic sense, although equally inefficient, and it is regrettable that it is difficult to practise it in the dental office. Some psychologic reasons above all, then some practical reasons, as the necessity for a sure support for the head, the question of lighting and often the danger of a foreign body falling into the pharynx, are an obstacle to it. As for the medicaments capable of neutralizing the general troubles, which are principally of a nervous and cardio-vascular order, it is necessary that they be active, rapid, administered by preference per os for psychological reasons. Stimulants, analeptics, cardio-tonics enter into the line of consideration. Reclus had adopted the famous cup of black coffee. Today we find cardiozal and camphorated validol being able to approach the required conditions. Cardiozol for its known prompt and energetic action on the heart and the respiration, Camphorated validol for its marked stimulating properties. I have applied cardiozal alone these latter years in some 850 cases, in dosage of 1 cc. in a mouthful of water before the anaesthetic. It cannot prevent the general effects of local anaesthetics from occurring, but they are diminished, and above all, pass away noticeably

(1) Combination of valerianic acid and menthol, with a further 30 per cent. of free menthol and 10 per cent. of camphor.

more quickly. The patient recovers shortly after the commencement of the symptoms, and sometimes a distinct appearance of well being comes over them. Although modest, these results have already given a certain satisfaction. On a group of patients considerably more numerous I have tried doses of eight to ten drops of camphorated validol administered in a little water before the injection, or immediately after, when the general symptoms are only beginning. The result is quite striking, better than with cardiozol, and very regular. The patient is less stricken, and for a shorter time. I know of no prophylactic treatment of its value. Among cardiac and other particularly handicapped patients I combine it with cardiozol. The neutralizing action is then clearly reinforced and practically sufficient even for delicate cases. We must take into consideration that the medication has the disadvantage of being expensive if it should be routinely employed.

The research workers, qualified, and better equipped, have addressed themselves to the second means at our disposal, and have replaced the adrenalin of the anaesthetic solutions with a successor.

Clauden, a vaso-constricting substance extracted from the pulmonary tissues of animals, was tried some years ago, and immediately abandoned for the insufficiency of its vaso-constricting effect in non-irritating doses.

Stryphnon, a vasoconstrictor related chemically to adrenalin, has only resulted in failure.

The results obtained with sym-patol, (hydrochloride of oxyphenylethanol-methylamine), another near relative of adrenalin from the chemical point of view, have been in every aspect worse than with adrenalin. The blood pressure rises

abruptly to a degree greater than that provoked by adrenalin, and the general phenomena of intoxication are more accentuated. (Bauer, Rothman).

Ephedrine, on the other hand, has given some encouraging results. An alkaloid which, whether derived from the ephedra-vulgaris, or produced synthetically, is equally a chemical neighbor of adrenalin. (Bauer, Guinat). It acts as does the latter on the vegetative nervous system, but has the advantage over it of having a vaso-constricting action which is less abrupt. It lasts longer, however. The blood pressure, as a result, mounts rather slowly. The general phenomena are obscure and hardly noticeable. Added in the form of the hydrochloride in dosage of 25 milligrams per cc. of solution of novocaine of 2 or 4 per cent., it gives an anaesthesia almost exempt from the general reactions of adrenalin. However, the quality of the anaesthesia is not so good, even with a 4% solution of novocaine. For this reason, and because of the insufficient operating ischemia, its use has not become general. One cannot increase the amount of ephedrine to improve the anaesthesia, as one would run the risk of producing symptoms of intoxication similar to those of adrenalin. The fact remains that a solution of novocaine-ephedrine is capable of giving sufficient regional and terminal anaesthesia in a great number of cases. Injections for the purpose of securing anaesthesia of the pulp have not given me satisfactory results. A concentration of novocaine below 4% is not recommended with ephedrine. My personal experience covers about 140 cases, scattered over the last two years.

Others have turned to the extract of the posterior lobe of the hypophysis (hypophesin = tonephine + orasthine) one uses in preference

tonephine alone which is endowed equally with vasoconstricting properties, and having no appreciable general effects. It acts particularly on the capillary system, while adrenalin particularly concerns the arterioles. In mixture with solutions of novocaine it gives an anaesthesia quite insufficient in intensity and duration. To reinforce the vasoconstriction they have had the idea of adding a very small quantity of adrenalin (as Guinat had done with ephedrine in 1930). The ischemia is then sufficient and the anaesthesia is good, only the disadvantages of adrenalin are not completely absent. Further, the extract of the posterior lobe of the hypophysis is contraindicated in the case of affection of the coronary arteries, as it can bring on an attack of angina pectoris. The experience which I have had with the novocaine-hypophysin solution of Brunnengraeber (Meropitan) permits me to say that its anaesthetic action does not equal that of a novocaine-adrenalin solution, and that its haemodynamic effect, although slight, manifests itself regularly.

Eserin (physostigmin), and its synthetic form, prostigmin, has been used for several years by Lindemann (Germany), who is an authority on surgery, and has used it in more than 2,300 cases for operations on the teeth, on the jaws, and on the whole face. His results appear impressive, but are contested on several sides. His example has been followed nowhere that I know of in dental practice.

Very recently a new successor to adrenalin, corbasil (I. G. Farben, Germany), has been introduced for our anaesthetic solutions. It is O - dioxy - phenol-propanol-amine, while adrenalin is O-dioxy-phenyl-ethanol-methyl-amine. Its haemodynamic action is of a nature similar to that of adrenalin, but exists to so slight a degree that it is prac-

tically negligible. Its usual concentration is 0.02%. It is said to be marvellous, but it is well to be critical in this regard. A short time ago the only solutions put up for the use of the practitioner were solutions of 2% novocaine. I have been able to observe, by use, its actual clinical value. The anaesthesia is neither as intense nor as long as with a solution of novocaine and adrenalin. The anaesthesia in the case of the mandible, and for pulpal anaesthesia, even in the upper jaw, is rarely sufficient. Haemostasis approaches that of adrenalin, but is not equal to it. From the point of view of the general organism one must admit that it has given some unhoped for results. The pallor, palpitation, the dyspnea, the inquiet, and the trembling no longer appear. I admit that I have had the impression with corbasil that local anaesthesia is almost rid of its most serious drawback—unfortunate general repercussions—on condition however that the concentration of the novocaine should be set at 4%, or better still, at 5%. The necessary quality of anaesthesia depends on this. It is impossible with the concentration of novocaine at 2%. It is necessary, after all, to await the results of prolonged clinical experience before being able to give a definite judgment on the product.

The latest group of researchers finally have attacked the problem from another side. Could not one succeed in diminishing the general toxicity of the adrenalin in some notable proportions? For example, by watching its chemical integrity or in modifying its physiologic chemistry? We habitually use ready-made solutions of industrial preparation. Now adrenalin is a substance of extreme changeability. When put in an aqueous solution with novocaine it produces a complex combination with it within a few hours. At the end of a short

time it can no longer be isolated either chemically nor biologically. This reaction is particularly rapid and intense in the solutions with high concentrations of novocaine and adrenalin such as the dental art employs. The coefficient of toxicity is parallel with the process of disintegration. These facts have been presented again and again by a series of experiments, most of them recently.

The anaesthetic solution of our ampules, then, possesses an excess of toxicity which should be manifested exactly by the intensity of its general effects. This excess is more than one commonly admits it to be. A fresh solution, in fact, immediately prepared, possesses toxic properties very clearly less, and general repercussions indisputably less pronounced. A simple comparative experiment that each of us can easily execute with the two kinds of solution will impress us by the unexpected difference of the results.

In directing the research further in this same direction they have arrived at a new perfection. To prevent the adrenalin from disintegrating in the presence of the novocaine, they had believed that it sufficed to render the vehicle slightly acid. Our anaesthetic solutions these latter years have all presented this character. One must take into consideration that the disintegration of the adrenalin took place all the same, although more slowly, and less apparent, since the solutions remained clear. The toxicity of these solutions still remains high, and the general effects are always very pronounced. Besides this, acid solutions are slightly irritating, their diffusion and their anaesthesia is less good, and the healing of wounds is retarded. So as to avoid these troubles they have had recourse to isoionic vehicles, hence alkaline, that is to say, having the same pH as the

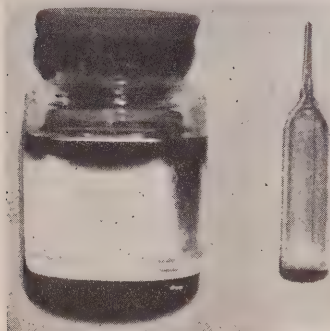
tissues. One uses to prepare them some salts called "buffers", phosphates in particular, such as the secondary phosphate of soda, capable of correcting automatically the pH of the tissues, lowered, for example, by inflammatory acidosis, and of maintaining their alkalinity. They give solutions with an anaesthetic coefficient frankly better. That is true even in inflamed tissues, as long as their pH should be at least 7.3. Their use assures an anaesthesia of such quality that the concentration of the adrenalin can be considerably lowered to two hundred thousandths per cc. in place of four hundred and five hundred thousandths, and hence, evidently less general reaction on the organism, without speaking of the better local tolerance.

These buffered solutions unfortunately are not stable. The question of the practicability of preparing them freshly presents itself. The extemporaneous preparation of anaesthetic solutions so that it is made at the time by means of tablets of novocaine-adrenalin dissolved in boiling water have given some serious disappointments. With a view to their preservation these tablets must contain some substances which were more or less haemolytic. If one used for this operation some tablets of novocaine alone, one was obliged to add to this solution some drops of 1:1000 adrenalin solution, which itself contained more haemolytic products to preserve it. Besides, the adrenalin in solution increases in toxicity with ageing, and diminishes in therapeutic activity. It was necessary to find something else. One recalls that novocaine and adrenalin in the undissolved state in the form of powder, keep indefinitely in a void. It is on the basis of this data that the problem has been able to be resolved in an ideal manner by two processes, the process of the dry ampule, and the process of the

double ampule introduced by Fischer-Woelm.

The dry ampule (Fischer-Woelm) contains the novocaine, the adrenalin, the sodium chloride and the buffer salt in the form of powder kept in a void. These are dissolved at the moment of use in a measured quantity of distilled water, kept sterile in a flask for that purpose. This flask is closed by a rubber cap, which the needle of the syringe pierces each time that solution is withdrawn, and which closes hermetically after the withdrawal of the needle.

Rubber Diaphragm Cap



Sterile Distilled Water

*Anaesthetic
and Buffer
Salts in
Powder
Form*

Fig. 1

The double ampule, called the "dupliophiole" (Fischer-Woelm) is composed of two ampules placed end to end in the long axis. One end likewise contains the active substances in powder form in a void, the other end an exactly measured quantity of distilled water for the solution. The two ampules are separated by a plug of fusible metal, placed in the interior of the glass, and melting at the moment of use under the flame of a

match. The liquid traverses a filter plug, also situated on the inside of the glass, reaches the powder, which goes into solution instantly. All this, the technical idea of which is due to Hahn, is ingenious, simple and practical, as one can see by referring to Fig. 2. The price, although within reach, is still high enough.



Fig. 2

Novak has indicated another kind of ampule, called the "mix-pule", where the active substances, in the powder form, are preserved, he says, thanks to their special preparation in vacuum. The "mix-pule" type consists of a cylindrical container presenting a narrowing a little below the mouth. The mouth is closed by an immovable rubber stopper, while the constriction is closed hermetically by another rubber stopper, the latter being removable at pleasure. By this arrangement one obtains a container in two compartments, of unequal size, and separated in an absolutely airtight manner. The lower compartment contains the desired quantity of distilled water, while the smaller upper compartment contains the active substance in powder form. To use this type, one pierces the fixed stopper with the

needle, advances the needle through the powder and pushes down the movable stopper which had been obstructing the neck of the container. The powder dissolves instantly in the water, and one has only to withdraw the solution with the aid of the syringe. In use this type is just as practical as the preceding one and is less expensive.

Each of these proceedings gives a fresh solution of equal quality. Anaesthesia is prompt, perfect, and a most essential thing, the general effects are reduced to a minimum. They are in every case a great deal less than those occurring with our customary stock solutions, and very often they are entirely lacking. There is an increase in tolerance which is truly remarkable.

The idea of local anaesthetic so-

lutions prepared freshly under conditions as perfect as this, offers such advantages over our usual methods and products at the present time, that it seems that they must thrust themselves on the profession of dentistry, if not on all surgery, and by the principle to all medicine.

Particularly when applied to a corbasil-novocaine solution of 4% and 5%, a solution which it remains for the dental art to introduce, one has the impression that it appears capable of causing an advance in local anaesthesia of a degree that is difficult to overestimate.

Address of the author: Avenue Marie-Therese (Luxembourg).

—(*La Revue Odontologique*, January, 1934, p. 21.)

La Société Coopérative des Dentistes de France

A Summary of the Objects

"La Société Coopérative des Dentistes de France" is an Association of Dentists, founded in Paris on May 19th, 1902, and has for object the buying in common of dental materials, instruments and sundries.

At its foundation, 68 Dentists joined, and now the Society counts over 5,000 associates (shareholders and members).

Its business, having increased steadily in the past few years, the Society has become one of the lead-

ing Dental Supply houses. (Business turnover in 1930: 6,463,693 fr.).

The Society is managed by a Board of Directors composed of 16 members all chosen among French Dentists belonging to various professional groups.

The objects of the Cooperative are as follows:

1°.)—To purchase jointly under better conditions the articles, materials and products necessary to the profession.

2°.)—To distribute, at the close of the fiscal year, according to the by-laws, the net profits, proportionately to every one's purchase.—All goods purchased, excepting precious metals, count for the distribution of profits.

3°.)—To protect the profession against a rise in prices. From this point of view the regulating action of the Society proves its usefulness every day.

4°.)—To encourage technical concerns under the control of authorized professionals.

5°.)—To promote professional education (grants to Dental Schools and Associations).

The Society, entirely independent, holds a considerable stock of various makes of goods, which

ensures immediate satisfaction to all customers.

Membership in the Society is open to all dentists and dental students.

The annual membership fee, giving a right to the distribution of profits proportionately to purchases, is 5 francs (2 fr. for students).

Members may become shareholders by buying a share bearing a fixed interest of 10 francs and thus become exempt of the annual fee.

All purchasers, whether shareholders or ordinary members, have the same rights regarding the distribution of profits: they are at home in the Society and serious consideration will always be given to their remarks and suggestions.

Allied Dental Council Annual Report

Recommendations of the Legislative Committee

1. That we shall continue to fully co-operate with Dr. Terry's Department especially in the matter of ferreting out illegal practice of dentistry.

2. That we shall continue the Legislative Department in THE DENTAL OUTLOOK wherein shall be recorded the activities of the Committee, of Dr. Terry's Department, and of any and all legislative matters of concern to the dental profession.

3. That the Roster of Illegal Practitioners be continued in the DENTAL OUTLOOK, wherein shall appear the names of all those convicted in our courts for practicing dentistry illegally.

4. That we shall continue to oppose the licensing of mechanics and laboratories.

5. "With reference to newspaper advertisements," to quote Dr. Terry, "in the interpretation of the word 'use' in the Rule, the

Attorney General has ruled it to mean the publication of a modest professional card containing the name, vocation, address, telephone number, and office hours *only*." Our Committee must see to it that the Department adopts a rule against the use of bold display type or the use of undue space, or such statements in the advertisements as: "Credit terms arranged," or "Credit extended," or "Easy terms," or "Over ... years in the (locality)," etc., etc.

6. That our Committee shall insist that the Department order the discontinuance of large and small paid advertisements in the Red Classified Telephone Directories upon pain of bringing up these advertisers on charges of violating Rule No. 8. These advertisements carry the following objectionable features in violation of the Regents' Rules such as: "Emergency Service at All Hours," "Emergency Work," "Broken Plates and Bridges Repaired While You Wait," "Examinations Free," "Modern Dentistry," "Modern Equipment," "Downtown Dentist," "Midtown Dentist," "Est. Over 10 Years," "Extractions, Plates and Bridge-work, X-Ray," "Extractions Especially," "Low Fees," "New Low Prices," "Amazingly Low Prices," "Easy Payments," "Extractions Free With Work."

7. That the Department take definite action against certain Credit Corporations, who act as solicitors for dentists, through advertisements in the newspapers, offering to pay the dental bills of prospective patients under certain arrangements in the form of loans to the patients, and receive a monetary consideration from the dentists to whom they refer these patients. This is in violation of Rule No. 5 of the Board of Regents governing dental advertising, which reads, "Employing or making use of solicitors or free

publicity agents" is considered unprofessional and objectionable.

8. That in order to discourage the practice of certain dentists, who knowingly and for a consideration, extract teeth and take impressions for patients whose dental work is being done by illegal practitioners; that one or two such dentists be made an example of, and the matter be given wide publicity, by having the Department bring up such offenders on charges of aiding and abetting in the illegal practice of dentistry with a view to their suspension from the practice of dentistry for a definite period, or have their dental licenses revoked.

9. We must continue to bring it to the attention of dentists not to send patients *direct to dental laboratories* for denture repairs, shade taking, impression taking, etc. Nor allow mechanics to work directly on patients in the presence of dentists and in the latter's offices. This is a form of encouragement for illegal dental practice.

10. That we publish the names of dentists appearing as *character* witnesses on behalf of illegal practitioners; the effect of such character testimony has a tendency to weaken the People's case against this harmful element in our midst.

11. That we continue to sponsor new and desirable legislation for the benefit of the public welfare and in the interests of the dental profession. That we continue to be alert in the matter of undesirable and harmful legislation, and fight such measures with all the power at our command.

Eternal vigilance shall always be the motto of our Committee.

Respectfully submitted,

LEGISLATIVE COMMITTEE.

(Sgd.) M. S. CALMAN, D.D.S. LL.B.
Chairman.

Accepted and referred to Legislative Committee.

Denture Bases:

Leslie McIntyre, D.D.S.

Pre-war denture prosthesis taught as essentials the conservation of the ridge; health service, and ability to masticate; balanced occlusion, etc. Post war clever salesmanship has beclouded these points, and in a considerable manner turned dentists into distributing agents for chemical firms, who are reputed to have amassed fortunes from the sale of reincarnated celluloids. These old-new denture bases have developed dental office technic all their own i.e.: playing golf on the office floor with a blank celluloid form to demonstrate the unbreakable, or executing a few jig-steps on one of these dentures to illustrate the uncrunchable features. On viewing the boneyard accumulated in the commercial labs., we meditate on the ingenious explanations required to slide over the "unbreakables" split from stem to stern, or the baby-blush pink "unbleachables" that have a range from walnut to near-indigo. The experiences of others are given below.

Vulcanite vs. Substitutes

By E. B. Owen, D.D.S.

During the World War, a celluloid known as hecolite was brought out in Germany as a substitute for rubber, of which there was a great shortage. Its color appealed to Americans and the right to manufacture hecolite was soon transferred to this country. It became the pioneer in the present-day widespread use of celluloids. It was

soon followed in the American field by alcolite, agalyn, parfait, and many others. There is some little variation in the manufacture of these materials, but basically they are nitrate of cellulose plus camphor (except in one instance where a substitute for camphor is used), and must be considered as celluloids. They have some properties that recommend them, such as tremendous strength and a color that is an improvement on that of vulcanite. The disadvantages are numerous: high percentage of absorption, deterioration with age, and instability of both form and color. As I have been able to observe the behavior of celluloids, the change in form, or warpage is due to two distinct conditions: The first I call, for want of a better name, the "green stick tendency." When we bend a green stick and release the force, the stick gradually straightens out again. When we change the shape of a block of celluloid under pressure, there is a tendency, when the pressure is released, for it to resume its original shape. This property is not true elasticity, but rather a molecular tension, with the molecules tending to assume their normal arrangement when the tension is released. In the case of artificial dentures, this molecular tension manifests itself almost entirely within the first forty-eight hours. It is not an excessive change and apparently becomes less in ratio to the length of time the material is kept under pressure.—*Jour. A. D. A., Sept. 1933.*

Consideration of the Newer Denture Materials

By William Denton Taylor, D.D.S.

"Hecolite," "alcolite," "dematex," "parfait," "barthol," "vitagum," and many others comprising the cellulose group (either cellulose nitrate or cellulose acetate) have been omitted from consideration, first, because they are not included in newer dentures base materials, and, secondly, because the profession must by this time realize that the products are unstable and definitely not suitable for denture bases. This is due presumably to the loss through volatilization of the plasticizer—in some instances, camphor.

The products comprising the cellulose group have high transverse strength. Their density may be considered fair, although we know that they contain a volatile evaporation which causes them to lose strength and form. There is seepage around the necks of the teeth caused by the shrinkage of material, and the permanency of form must be considered brief. Their permanency of color is only of fair length, and the product is very unsanitary, absorbing up to 10% of its weight in moisture.

Reparability is low.—*Journal A. D. A., May, 1934.*

Gillis—Denture Technic

Denture Base Materials:

I shall not go into a theoretical, detailed consideration of the several denture base materials now available. You are probably quite familiar with the many that have been offered recently. Possibly, some of you are also sadly wiser because of practical experience with them.

Vulcanite, which when properly handled, properly cured and properly finished is still the most widely used and most dependable base material, is, in prosthetic work, not unlike amalgam in operative work, being considered cheap material and having been grossly abused. Treat vulcanite properly and, like amalgam, it will render remarkably satisfactory service.

Condensites have come and gone and some are being greatly improved in strength and color stability; but they still leave much to be desired.

Celluloid is still celluloid even when called by other names. A trade-name does not relieve it of several treacherous qualities. — *Jour. A. D. A., Feb., 1933. L. Mc.*

Orris Root as an Allergen

Orris root, the powdered dried root of the iris rhizone, has been the object of special attention at the Mayo foundation in an endeavor to orient it as an allergen. Cooke found that of 327 patients who had hay fever and asthma 14.4 per cent. were sensitive to orris root. Of 105 cases of hay fever orris root was the sole factor in 6.6 per cent., but was felt to be a contributory factor in 24.7 per cent. of the cases. Other studies were carried

out with reactions indicating the importance of this powder as a cause in cases of sensitivity.

Orris root is used extensively in the preparation of cosmetics, face powders, toilet soaps, perfumes, etc., in the finely triturated form or as orris root oil. It is found in face and talcum powder, skin creams, lip-sticks, candies, soft drinks, and from the dental slant, tooth-powders, pastes, and teeth-ing sticks. — *L. Mc. (from Mayo reports).*

Milk Supplements vs. Vitamins A and D

Large amounts of Vitamin supplements have been prescribed at considerable expense to the community. To determine the value of the addition of Vitamins A and D to the average diet of poorer children test groups and control groups were experimented with at North School, Peterhead, Scotland. With the co-operation of generous manufacturers each child of the treated group for a period of six months received one capsule of vitamin concentrate containing 1000 blue units (Carr Price value) Vitamin A and 1200 international units Vitamin D. This was the equivalent of one ounce of cod-liver oil per day. About 300 children were in each group.

The results of these experiments were disappointing. Not only was there no conclusive evidence of any beneficial results upon susceptibility to infection or resistance, but the effects upon growth compared unfavorably with that of milk experiments of Orr, Leighton and Clark. Milk supplements succeeded where Vitamin addenda failed because, in addition to correcting Vitamin deficiency they made good associated deficiencies which almost always go hand in hand with a shortage of vitamins. On biological grounds there can be no comparison between the value of milk and that of Vitamin concentrates as supplements to a defective basal diet. To this is added the potent economic argument that not only does milk produce better results than vitamin concentrates but does so at no greater cost. Vitamin concentrates do not provide a short cut to health. The importance of a well balanced diet is stressed, milk supplements as an aid compares biologically and economically with Vitamin addenda. — (*Br. Med. Jour.*) *L. Mc.*

Cementoma: Occurrence in Man (Mayo Report)

Cementoma, distinguished from complex odontoma, is looked on as rare in man, though it has been found in animals. This tumor, derived from the dental system, was found in 24 cases on examining 10,000 radiograms. The ratio of mandibular to maxillary cementomas was as 17:1.

Pain was absent, all but two teeth involved were vital and no active caries was found. Three stages in their development were noted. No. 1, the earlier, often misinterpreted as periapical infection, consists of connective tissue with isolated cementicles in the inner zone; No. II., mistaken frequently for calcified granulomas; composed of a peripheral zone in which connective tissue predominates with an inner zone of fused cementicles forming an area of compact cementum; No. III., the quiescent or mature stage, a radioluscent band surrounding a radiopaque area.

These growths usually remain small, the teeth remain vital, and removal is rarely justified.—*L. Mc.*

Increased Import Duty on Artificial Teeth

An increased duty of 1½d. a tooth was passed by the British House of Commons. Each year the United Kingdom uses about 30,000,000 artificial teeth; 10,000,000 of these are of home manufacture, the other two-thirds come in from the U. S. A., Palestine, Germany, France, and Japan. The additional cost will be slight and will not raise the price of dentures to the patients.—*Br. Med. Jour.*

High Arched Palates

Two distinct types:

(1) Congenital: a persistence of a certain stage of foetal develop-

ment. In this type there is an actual raising of the floor of the nasal fossa, which slopes upward and inward to meet the nasal septum.

(2) Acquired: No actual elevation of the roof of the mouth, the apparent elevation being due to hyperplasia of the alveolar and palative processes, and is probably of a rickety nature. The two types may co-exist.—*O'Sullivan Br. Med. Jour.*

Lecture Clinic

The lecture clinic on prosthetic dentistry held in the Marquis hotel was well attended by visiting and Lethbridge dentists, and a most enjoyable and educational clinic was held. Dr. Frank Franzwa of Boston, Mass., conducted the clinic. He proved to be a clever speaker and is at present on a tour visiting principal Canadian cities.

Besides Lethbridge dentists, the following from out of the city attended: Dr. Gee, Fernie; Dr. Ahrens, Taber; Dr. McNichol, Medicine Hat; Dr. Slack, Medicine Hat; Dr. Wyatt, Medicine Hat.

One Look Out Window

"Removes" Tootache

*Sign "Prepare to Meet Thy God"
Enlightens Dentist*

Dundee.—A Dundee dentist—the story was told at the British Dental Association's conference — wondered why so many of his patients suddenly left the chair and never returned.

It was particularly noticeable with those to whom he was about to administer gas. They sat down, then, without warning rose, said they would not take gas that day and walked out.

One day he sat in the chair himself and looked through the window. On the opposite wall, on premises occupied by the Salvation Army, was the message, painted in large letters: "Prepare to Meet Thy God."

Dental Clinic for K.G.H. Is Now Approved

Will Be Operated for School Children and Indigent Patients

The stamp of approval has been placed on the dental clinic at the Kingston General Hospital by the Board of Governors, and this new department of the hospital is scheduled to open on Sept. 1. Dr. J. H. G. Harwood, a graduate of the Ontario Dental College, and now assisting in a practice in Timmins, will be the dental interne.

The operation cost of the clinic is estimated at \$1,400 per year. Towards this expense the school board of the city has agreed to contribute \$500 on the understanding that the hospital will take care of such school children as may be unable to pay for necessary dental work through the ordinary channels. The sum of \$200 has been donated by the Ontario Dental Association as a scholarship towards the fee paid to the interne, Dr. Harwood. The remaining \$700 will be carried as a deficit in the general operating cost of the hospital. This deficit will be offset by the usual donations given to the hospital each year.

The clinic will be under the supervision of the following board which has been appointed for the ensuing year: Dr. J. C. W. Broom, chairman; Dr. J. L. Walsh; Dr. V. A. Martin; Dr. H. A. Stewart; Dr. S. H. Simpson. Under these doctors, the dental clinic will function similarly to the other departments of the hospital.

DENTAL SOCIETIES

Northern Alberta Dentists Attend Clinic

Dentists from all over northern Alberta assembled at the Macdonald Hotel Monday morning, August 20, to attend a three day clinic presided over by Dr. C. F. Franzwa, Buffalo, N. Y. The course of study set for the three days is partial denture and inlay work.

Dental Clinic Held in Nelson

A clinic on gold partial dentures and gold inlays was conducted by Dr. Franzwa, of Buffalo, New York, in Nelson, recently, dentists attending from points throughout the East and West Kootenay and Boundary districts, one attending also from West Summerland.

Two sessions were held Friday afternoon, and one in the evening, and there will be two more sessions today.

Mr. Bowman, of Calgary, managing the trip.

Those attending the clinic were: Dr. R. E. McDonald, Rossland; Dr. J. Gaham, West Summerland; Dr. W. D. Smith, Grand Forks; Dr. G. D. Stibbs, Nakusp; Dr. W. R. Williamson, Dr. W. C. Bradshaw, Trail; Dr. G. G. McKenzie, Creston; Dr. G. A. C. Walley, Dr. J. Gansner, Dr. W. B. Steed, Dr. T. H. Bourque, Dr. L. J. Maurer and Dr. C. E. Bradshaw, of Nelson.

Dental Work in Schools Shows Good Results

This year's annual report of Dr. Lorne D. Haselton, school dentist, shows that there has been a steady decline since 1928 in the number of Saskatoon public school children

with defective teeth. At the end of the school year 1928-29 only 40.5 per cent. of the pupils had satisfactory teeth. This year's report indicates that 72.6 per cent. of the pupils have sound teeth.

Moncton School Dental Clinic

The splendid work which has been accomplished by the Moncton School Dental Clinic during the past school year was revealed in a report submitted to the annual meeting of the Clinic held last evening in the Y.M.C.A. It was decided to continue the work during the coming school year and officers were elected and plans made for the coming year.

Comes All the Way from Alaska to Call on Dionne Quintuplets

Callander, Ont., Aug. 16. — An Alaskan prospector who hadn't been "outside" in years spent his holiday this summer travelling from Nome to Callander to hear about the Dionne quintuplets and have a tooth pulled by Dr. A. R. Dafoe, the babies' physician.

The Alaskan, whose name Dr. Dafoe did not obtain, dropped into his office a few days ago. Folks away up north had heard about the babies, he said, and thought it would be a good idea if someone went down to see them. The traveller was refused permission to actually look on the babies, but he saw their home and Dr. Dafoe gave him all the information he wanted.

As he was about to leave the physician's home, the prospector turned. "By the way, I wonder if you'd mind pulling a root that has

been bothering me for 25 years," he said. Dr. Dafoe often acted as dentist for his patients and he complied.

Then nothing would do the Alaskan but that the doctor would accept a \$1 fee and give him a signed receipt "to show the folks back home."

The quintuplets went on the bottle today, and liked it. The tiny girls had been fed with eye-droppers in the first weeks of their lives and it was not until this week that the smallest ones became "bottle babies."

New Move by Dentists

Seek Writs of Prohibition Against College

Unsuccessful in obtaining writs of certiorari to prevent the discipline council of the College of Dental Surgeons of the Province of Quebec from hearing complaints against them in regard to their advertising which, it is alleged, is derogatory to the dental profession.

Officers Elected by Dental Society of New Brunswick

Dr. H. W. MacDonald, Saint John, President—Dr. Reade, Vice-President

(Canadian Press Despatch)

Sussex, N. B., July 11.—The following officers and council members were re-elected yesterday at the annual convention of the New Brunswick Dental Society:

President, Dr. H. W. MacDonald, Saint John; Vice-President, Dr. B. F. Read, Moncton; Secretary-Treasurer and Registrar, Dr. J. K. Higgins, Saint John; Council, Dr. A. J. Cormier, Moncton; Dr. S. K. Donald, Moncton; Dr. J. F. Edgecombe, Saint John; Dr. George G. MacDougall, Sussex; Dr. R. H. Kee,

Saint John; Dr. L. H. Reed, Woodstock; Dr. F. L. Miller, Fredericton; Dr. B. R. Ross, Fredericton, and Dr. E. J. Legere, Bathurst.

St. Catharines' Dentist Honored

Dr. Frederick Killmer, of St. Catharines, who has practised dentistry for over fifty years, was honored by his fellow-dentists with a banquet at the St. Catharines' golf club on June 28th. Dentists were present besides from St. Catharines and vicinity, from Toronto, Hamilton, Galt, Simcoe, and Niagara Falls. Following the dinner, Dr. Thomas Cowling, of Toronto, read an address to Dr. Killmer, and Dr. J. D. Buchanan presented Dr. Killmer with a suitably engraved putter. Dr. Killmer is an expert golfer.

Toronto Doctor-Speaker Before Dental Society

Dr. Fulton Risdon, plastic surgeon, of Toronto, was to be the principal lecturer at a meeting of the Calgary Dental Society in the York hotel this afternoon.

More than 35 Calgary dentists were expected to attend. Thursday another distinguished dentist will speak under the auspices of the Western Canada Dental Association and the local society.

Regina Dentists Hear Dr. Risdon

Accepting an invitation from the Regina Dental Society, Dr. Fulton Risdon, M.D., of Toronto University, stopped over in Regina Tuesday on his return from the convention of the Canadian Medical association at Calgary last week.

Dr. Risdon, an oral surgeon connected with the Canadian Med-

ical association, addressed local members of the dental society at the Champlain hotel Tuesday afternoon. He spoke on technical subjects pertaining to the dental profession.

Tuesday morning Dr. Risdon was motored to Fort Qu'Appelle by Dr. R. N. Grant, president of the local society, and members of the committee, including the secretary, Dr. Roy Johnson, Dr. Irwin Robb and Dr. J. R. Hoag.

Several members of the Moose Jaw society attended the lectures Tuesday afternoon at 4.30. A dinner followed the gathering. Dr. Risdon is a guest at the Saskatchewan Hotel.

Teeth Are Perfect in Twelve Classes

Dufferin public school has once more led the list of the hundred in Toronto—this time in the matter of dental hygiene.

Welfare Dental Clinic Reports Plenty of Work

The city welfare dental clinic, costing \$300 a month, has 26 months of work in prospect, Welfare Commissioner Laver informed the Board of Control today. Mr. Laver was instructed to report to the Board on the adequacy of the present dental arrangements, and as to whether any additional expenditure was required.

Lift Advertising Ban

Albany, N.Y., July 7. — The appellate division has handed down a decision restraining the state

board of dental regents from enforcing a rule which prohibits dental advertising. The court reached its decision in a test brought by Dr. Fred P. Bown, Brooklyn, and others. In the prevailing decision, the court said: "The standard set for dental advertising is that it shall not be 'untrue, fraudulent, misleading, or deceptive.' Rule 8 is more restrictive than the statute. It transcends the standard fixed in the law and enacts a standard of its own."

Dental Clinic at Sunrise Valley

Dr. Campbell, of Pouce Coupe, and Miss Dunn, R.N., M.B.E., of Sunset Prairie, conducted a Dental Clinic at Sunrise Valley, on June 22nd and 23rd, at the home of Mrs. Commans, sponsored by the Sunrise W. I., with the co-operation of Parkland and Sunrise School Districts and the Junior Red Cross. Over fifty patients were given dental attention. Arrangements were made by Nurse Dunn for transportation for ten anaesthetics patients, to be treated by Dr. Campbell at Pouce Coupe.

A great deal of beneficial work was done, but many permanent teeth were sacrificed which might have been saved had the Clinic been conducted sooner.

Miss Dunn and Dr. Campbell are to be commended on their efficiency and co-operation. Miss Malkin, R.N., was unable to assist owing to other professional duties.

In the absence of our President, Mrs. Rockafellow, the Vice-President, Mrs. Varco, did the secretarial work in a very efficient manner.

A vote of thanks is due Dr. Campbell, Nurses Dunn and Malkin, Mrs. Varco, Sunrise Valley and Parkland School Districts, Junior Red Cross and Mr. and Mrs. Commans for their willing assistance.

Dr. Arthur E. Ward

Son of Mr. and Mrs. E. Ward, Port Arthur, who graduated last month from University of Toronto, obtaining the degree of Doctor of Dental Surgery with first class honors in all subjects, heading the graduating class. Dr. Ward will open offices in the Bank of Montreal building.

Automobile Accidents Fewer in Number

The lack of care, and in many cases the lack of courtesy, causes the majority of automobile accidents. If members of the driving public could realize that under the hood of every automobile are anywhere from a score to a hundred horses, there would be fewer accidents and claims. These horses are docile and tame in the hands of some drivers, but wild and dangerous to life, limb and property in the hands of others.

Nova Scotia Dental Society

Fifty-four delegates from all sections of the province were registered yesterday at the opening of the 44th Annual Convention of the Nova Scotia Dental Association. The convention will occupy two days, the opening session being confined to a business meeting and election of officers for the coming term.

Dr. H. S. Crosby, of Halifax, was elected president of the Association succeeding Dr. W. H. Mulhall, of Liverpool. Other officers were elected as follows: Senior Vice-President, Dr. V. D. Crowe, Truro; Junior Vice-President, Dr. V. C. Calkin, New Glasgow; Secretary, Dr. J. Stanley Bagnall, Halifax; Executive Committee, Drs. H.

S. Crosby, V. D. Crowe, J. S. Bagnall, V. C. Calkin and F. R. Duxbury, of Canning. Representatives were also appointed to the Dominion Dental Council and the Canadian Dental Association.

Work Done in the Interests of Public Health

An outline of what has been done by Canadian Companies in the interest of public health movements was discussed by E. E. Reid, B.A., A.I.A., F.C.I.S., vice-president and managing director of the London Life Insurance Co., in a paper at the International Congress of Actuaries at Rome.

The first question that it is natural to ask in connection with the possibilities of such work is this: What proportion of the deaths that occur is due to causes that are preventable? According to statistics it is safe to say that on the North American Continent over one-half of the deaths that occur from other than what might be called inevitable causes, such as accidents, suicides, etc., are due to infectious diseases. This statement, in itself, points emphatically to the desirability of attacking the problem of public health from the standpoint of prevention rather than from the standpoint of cure.

For this purpose a health committee was added to the other committees of the Canadian Life Insurance Officers' Association.

Girls Prefer Dentistry

A teacher from Formosa told some Winnipeg women that girls in that far-off land preferred dentistry. As a result, newspapers from coast to coast published the fact as a new item.

Report on a Case

Patient, male, over sixty years of age, pulp devitalized with arsenic about twenty years ago. Root filled with chlora Percha and gutta percha cones. Root extracted because the pulp was dead. X-ray showed no marked diseased condition. The surface of the root showed some fibrous tissue and blood attached.

The apical surface of the root was cultured on blood agar. A mixed culture similar to that found in the mouth developed in forty-eight hours. The surface of the root after treating with silver nitrate treatment was cultured in Robertson's meat medium and showed a mixed culture commonly found in the mouth.

The gutta percha root filling was removed and cultured and showed no growth.

Dental Board: Endowments and Bursaries

The summarized report of the work of the Dental Board since its inception, 1921 (new Br. Dental Act) shows £173,000 granted to students; £53,000 to dental schools; £52,000 for research and £34,000 for dental health education. In addition £10,000 granted to aid dental teaching, and P. G. work £10,000 shows remarkable interest taken in all developmental phases of the profession. 702 bursaries have been granted, 355 of whom have qualified. Through the Dept. of Scientific and Industrial Research researches have been carried out on dental materials; through the Medical Research Council Mae Mellanby's work has been assisted.

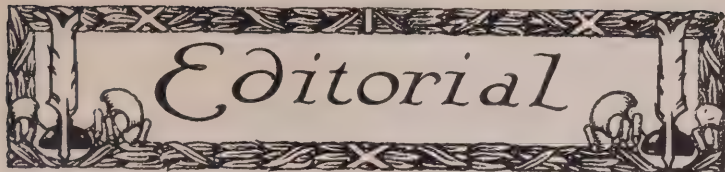
Sir Francis Ackland suggested that along with Mrs. Mellanby's conclusions some experiments, apart from diet, be made on perfect environment.—*Br. Med. Journal*.

The Montreal Dental Assistants' Association

The Montreal Dental Assistants' Association held their closing business meeting on Wednesday, June 20th, 1934, at the home of Miss Rachel Ratner, at 265 St. Louis Square. The President, Miss W. Hyde, reported on the convention held in Toronto last month by the Ontario Dental Assistants' and Nurses' Association. She emphasized on the splendid activities performed by the above Association and was hoping for the day when all Dental Assistants in Dominion will be joined into one National Dominion-wide organization for the service of the community in general, and the Dental profession in particular. The other delegate, Miss Ratner, reported on special phases of the convention, such as the visit to the Children's Hospital and Experimental Research Laboratories, as well of Dentists' Clinics and their Luncheon and Round Table Conferences. The visit of His Excellency the Right Honorable the Earl of Bessborough, Governor-General of Canada, the wonderful soloist, Beth Arnott Ellis.

Letters in appreciation were mailed to the Supplies for their liberal cheques towards the expenses for the delegates, Paterson & Paterson, E. Littner, Ash-Temple Dental Company and Loch-heads' Laboratories.

Refreshments were served.



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NO. 9

History Repeats Itself

Back in the nineties when the late Doctor J. G. Adams was using every bit of his strength to provide dental services for the poor children of what was then known as the Ward in Toronto, the City Council seized all the equipment of the dental hospital for back taxes. At that time Dr. Adams and all the influence he had, could not prevent the dental hospital from being sold. This short-sighted action on the part of the City Council had the effect of encouraging free treatment of the poor rather than of discouraging it.

What happened back in the nineties is now being repeated in New Glasgow, Nova Scotia. Dr. Fred Frazer, of New Glasgow, is a dentist of fifteen years' standing. When the financial depression came his practice was substantially reduced. He found it impossible to keep up his taxes. The Town Council seized much of his equipment and this broke his standing in his home town. A few months later more taxes were due. Again \$1,600 of household and dental goods were sold to cover a tax bill of \$146. He now finds it impossible to pay his taxes or earn a living for his family. Both Dr. Adams and Dr. Frazer needed a manager or the Council should be discharged from their official positions. It appears to be extreme short-sightedness on the part of the Council. In either case the dental profession should have stepped in and protected the dentist from the stupidity of the Council.

DENTAL NOTES

Dr. W. M. Seymour, for a time dentist at the Orillia Hospital, was among those asked to resign by the new Ontario government. No replacement is to be made.

Dr. C. O. Beam, Niagara District, is in practice fifty years.

Dental Services in Montreal

Boys and girls of 12, 13 and 14 who have lost half their second teeth are nothing unusual in Montreal. So worried over the situation are the authorities of the Health Service for Federated Agencies that the executive director, Miss Esther Beith, R.N., is engaged in making a survey of the dental services available for the indigent of the city, on which a report will be issued in the near future.

The dental services for those who require free treatment are totally inadequate, Miss Beith declared yesterday. About sixty per cent. of the clients of the social agencies who were given health examinations by the Health Service in the first six months of this year were found to be in need of dental treatment. During camp examinations, it was not unusual to find children of 12, 13 or 14 who had half or more of their second teeth missing.

Practically the only free treatment available is extraction, and consequently many a tooth that could be saved is pulled.

Becomes Dental Officer

Dr. A. H. Wilson assumed the duties of dental officer at the Ontario Hospital, Woodstock. He succeeds Dr. LeRoy Heath.

Annual Fall Clinic

The Tenth Annual Fall Clinic will be held under the auspices of the Montreal Dental Club on October 18th, 19th and 20th, at the Mount Royal Hotel, Montreal, Canada.

The Wellcome Research Institution, London, Eng.

Exhibit at the Chicago Exposition, 1934

The attention which is being devoted to research is typified by the exhibit of The Wellcome Research Institution, founded by Sir Henry Wellcome. The large scale model exhibited of the magnificent building erected in London (Eng.) gives some idea of the founder's devotion to research and his determination that adequate and worthy headquarters should be available for the three research laboratories and the two research museums which bear his name. The corner stone of The Wellcome Research Institution was laid by Lord Moynihan, President of the Royal College of Surgeons of England, in 1931.

The Wellcome Research Institution embraces The Bureau of Scien-

tific Research, The Entomological Field Laboratories, The Physiological Research Laboratories, The Chemical Research Laboratories, The Museum of Medical Science and The Historical Medical Museum, all of which are located in the new research building except The Wellcome Physiological Research Laboratories, which are at Langley Court, Beckenham, Kent (Eng.), with grounds of more than 100 acres of park land; and The Wellcome Entomological Field Laboratories, which are situated in spacious open country at Claremont, Esher, Surrey (Eng.).

The Wellcome Research Institution exhibits, in addition to the model referred to above, a screen bearing photographs illustrating the Army Medical Motor Field Laboratory presented to the British War Office and attached to the Expeditionary Forces in Palestine, Mesopotamia and Egypt during the Great War. It shows also notable exhibits from The Wellcome Tropical Research Laboratories, Gordon Memorial College, Khartoum, including a model of the Floating Research Laboratory used on the Nile and its tributaries, and copies of the Research Reports illustrating the scientific and economic work is carried out.

New York Dental Centennial

This meeting is in celebration of the hundredth anniversary of the founding of the first dental society, "The Society of Surgeon Dentists of the City and State of New York"; to be held December 3, 4, 5, 6, 7, 1934, at the Hotel Pennsylvania, New York City.

The plan and scope of the meeting assures a program of extreme scientific and historic interest to the profession. Formulate your plans now to attend this important event.

"New York Dental Centennial" Commission offices, Hotel Pennsylvania, New York City.

Monthly Meeting

The monthly meeting of the Toronto Dental Assistants' Association was held on Monday, June 4th, at the Royal York Hotel. After the business session Dr. S. A. MacGregor entertained us with his tricks and models.

After this enjoyable evening the Association closed for the summer months.

BOOK REVIEW

Practical Anesthesia for Dental and Oral Surgery

LOCAL AND GENERAL

By Harry M. Seldin, D.D.S.

Director of the Division of Dentistry, Department of Hospitals, City of New York; Honorary President of the Eastern Society of Dental Anesthetists; Formerly Chief of the Department of General Anesthesia, New York University, College of Dentistry.

Octavo, 525 pages, illustrated with 203 engravings. Published 1934.

Cloth, \$7.00, net.

This book fills the need for a comprehensive, accurate, and, above all, practical textbook on dental anesthesia, both local and general. The author believes that these two branches should be treated in a single volume and with equal emphasis. Both are important, they are intimately inter-related and each has its place. The skilled anesthetist will be able to decide which anesthetic agent is best suited to the particular case in hand. To aid him, this book gives full consideration to the indications and contraindications and to the unusual conditions which militate against the use of one or the other.

The emphasis on physical diagnosis enables the dentist, exodontist, or oral surgeon to estimate the physical state of his patient with-

out undue delay, by simple and accurate means. The basic aspects of anatomy and physiology are stressed so far as they have a bearing on anesthetic technique and the essential facts are correlated with the dentist's everyday knowledge. Original charts aid in organizing the material and in reviewing it, and those giving the equivalent strengths and uses of novocaine preparations will be particularly useful.

—

A short history of Dentistry by Lilian Lindsay, London. Published by John Bate & Sons.

This is a small book covering the main points of interest in ancient and modern Dental history. It sets the profession right in many essential parts. It lays the foundation for more accurate conclusions than some of our more extensive books. The author is well known for her extensive researches in dental history.

Every dentist who wishes to make any references should consult Dr. Lindsay's book.

The author leaves the impression that dental schools and hospitals were the first to establish public dental health services. This is hardly true in America. They rather used patients as clinical material for teaching purposes.

CORRESPONDENCE

Dear Doctor Webster:

The process for the production of Copper Amalgam has been known for a long time in dentistry, as its value as a filling material

and its therapeutic action in preventing the loss of tooth structure, caused by the ravages of dental caries, by its powerful germicidal effect in arresting the growth of

these pathogenic organisms was recognized soon after the introduction to the dental profession, by clinical observation as the best material of all our selection of fillings in arresting the destruction of tooth structure caused by caries.

It was only in 1920 that a series of tests were made by the Dental Research Committee of the University of Toronto under the guidance of Dr. J. J. McKenzie calling their attention to certain unique properties of copper amalgam, in his examination of the various filling materials and found that only one material had had any antiseptic properties when subjected to any lengthy fresh culture-media tests, and that one was copper amalgam.

Much of this research finding was by no means new to the profession, as the therapeutic value of this material was recognized soon after its introduction and practical application in operative dentistry.

Many practitioners well remember soon after this material was used, Miller and others observed, that the underlying dentine, where such fillings had been removed, showed certain germicidal qualities, and that the tooth tissue was immune from the development of caries.

Even Husband in his transactions and bulletined by the Research Foundation, in 1933, did not present any knowledge on the therapeutic value of copper amalgam as a filling, material no more than has been already advanced.

Also for a great many years the copper element with a suitable compound mixture has been used and recognized as an excellent root ingredient for its therapeutic value.

In your valuable paper on "The Root Canal Question Put on a Scientific Basis," which appeared in the Dental Cosmos, you set forth two important considerations, one was to maintain a sterile condition of the root canal and also to pre-

vent any future growth of pathogenic bacteria. The ingredients which enters into a root canal mixture are a large proportion of Oxide of Zinc and a quantity of Burgundy pitch or rosin to which is added a small amount of finely powdered copper amalgam with addition of absolute alcohol to form a thick paste. The alcohol should possess no aqueous or hydrate element. This mixture which you advocated I consider is an excellent and practical root canal filling.

Possibly you may be able to give us some information when copper amalgam was first introduced in dentistry; the writer thinks that Dr. George H. Weagant, Cornwall, Ontario, discovered a process of making this amalgam in 1888 or about that time, and if I remember rightly he described his process in an article which appeared in the Dominion Dental Journal about that date. It was sold by S. B. Chandler, Dental dealers, as "Weagant's Copper Amalgam." The writer first used the amalgam under this trade name.

Yours truly,

T. C. TRIGGER, D.D.S.

St. Thomas, Ont.,

August 4th, 1934.

Dr. A. E. Webster,
Editor, Dominion Dental Journal,
Toronto, Ontario.

Dear Doctor Webster:

In regards to my former correspondence to you in reference to the statements which I have made about Copper Amalgam Filling and my opinions as to its origin, I have written to Dr. Mark G. McElhinney, Ottawa, who is Chairman of the Eastern Ontario Dental Society, with a view of digging up our early history.

It is important that the dental profession should have definite records kept of the doings of its

members, and as Dr. McElhinney, has already stated, in a former letter as follows: "It is a notable fact that few organizations are able to maintain full and consecutive records and much has to be left to memory and tradition."

I have already written Dr. McElhinney in regards to any information on copper amalgam and whether Dr. Geo. H. Weagant is credited with its origin, and have asked Dr. McElhinney to communicate with you if he is able to offer any information.

With kindest regards.

Very sincerely yours,

T. C. TRIGGER, D.D.S.

Toronto, June 30th, 1934.

Dear Doctor:

About three months ago, the Dental profession was seriously perturbed by the appearance in a Toronto newspaper of a display dental advertisement over the name of C. A. Risk.

The Board of the Royal College of Dental Surgeons took very prompt action to the extent of calling an emergent meeting of the Executive Committee, followed by a

meeting of the Discipline Committee, and an emergent meeting of the whole Board, at which meeting it was ordered that C. A. Risk's license be cancelled.

During the same meetings, the Discipline Committee and the Board dealt with the case of Dr. G. A. C. Gunton and decided that his license should also be cancelled.

In each case, following closely the notification of the cancellation, an appeal was entered against the decision of the Board. These cases must come before the Court of Appeal and cannot now be heard before September.

Unfortunately, the Discipline Committee can take no further action until the Court of Appeal hands down its decisions.

The members of the profession may be assured that in these cases the Board through its Committee will take such action as is legally permissible at the earliest possible moment and will continue to do all in its power to protect the status of Dentistry in this province.

Sincerely yours,

ERNEST C. VEITCH,

Chairman of Discipline Committee.

OBITUARY

Miss Ann L. McCullagh,
Toronto

Resident of Toronto for 50 years and formerly associated with the dental profession and dental supply houses, Miss Ann Lawson McCullagh, daughter of the late Rev. William and Ann Lawson McCullagh, former Presbyterian missionaries, died after three months' illness. She was born in the New Hebrides, Scotland, and came to Toronto with her parents when

young. She attended St. Andrew's Presbyterian Church. Her sister, Mrs. Jane Little, 25 McMaster Avenue, with whom she lived, is the sole survivor.

Dr. G. S. Richardson, Ottawa

Ottawa, Aug. 2. — (CP) Dr. George S. Richardson, widely-known dental surgeon, died at his home here today. A native of Newmarket, Dr. Richardson received his degree at the University of



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line precision through 39 tests, Pepsodent may be diluted with as many as 2 parts of water, and it still kills bacteria in less than 10 seconds. We believe you will agree, Doctor, that this safe, modern antiseptic thus affords a real economy . . . both to the dental profession and to the layman. For Pepsodent goes further . . . therefore costs less to use . . . than many antiseptics which require full strength.

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Toronto and practised his profession in Calgary, Alta., for some years before coming to Ottawa in 1914, where he had since resided. In addition to his widow, he is survived by two brothers, Dr. Chester Richardson and William Richardson, of Newmarket, and three sisters, Maude and Louise Richardson, also of Newmarket, and Mrs. W. Wilkinson, Toronto. Burial will take place in the family plot, Aurora, on Saturday.

Mother Dies Day After Her Son Stricken

Dr. H. E. Morris, Wallace, Succumbs; Double Funeral to Be Held

Wallace, July 10.—Dr. H. E. Morris, prominent dentist, died suddenly here Monday from a heart

attack, and to shock at the news was attributed the death the following morning of his 93-year-old mother, Mrs. Susan A. Morris. A double funeral will be held Thursday, Rev. H. T. Roe officiating.

Dr. Morris, born here, practised several years in Winnipeg, but upon death of his father, C. W. Morris, some 10 years ago, he returned to the old homestead and practised here and at Pugwash. His mother had been in failing health the past two years.

Dr. Morris, who was 55, is survived by his wife, two sons and two daughters. One son resides in Winnipeg, and the other, Frank Morris, political editorial writer of the Detroit Free Press, is speeding toward Nova Scotia to attend the funeral. Dr. Morris was the last surviving child of Mr. and Mrs. C. W. Morris.

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FOR SALE, in perfect condition, S. S. White all chord foot-engine, used only two months; also student's case and D.E. Automatic Mallett. Write Reid MacMillan, 339 St. John St., Fredericton.

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DENTAL PRACTISE AND EQUIPMENT WANTED. Box 118, Dominion Dental Journal, 73 Richmond W., Toronto.

ORIGINAL CONTRIBUTIONS

Interpretation of Dental Roentgenograms

*Edward C. Stafne, D.D.S.,
Rochester, Minnesota*

Significance and Insignificance of Certain Findings

Roentgen rays are the most valuable adjunct to dental diagnosis; yet they are the least used adjunct in proportion to the possibilities they offer. They will reveal more than all the other methods put together. They will provide at least 75 per cent. of all the evidence obtained, and time and time again they will reveal conditions which it would be impossible to discover otherwise.

There is no phase of dentistry that offers greater possibilities than general and operative. To confer the greatest benefits in such practice, however, one must not limit the examination to doubtfully involved and suspected regions only. Such a course is no doubt justified in general roentgenology, but not in dental roentgenology, for disease of the teeth and their supporting structures is common. When roentgen rays were first made use of in the search for focal infection of dental origin, it was common practice to make roentgenograms only of those regions, the appearance of which aroused suspicion. But a very short time passed before it was realized that such a procedure was wholly in-

adequate. There are now many physicians who will not accept haphazard reports, and there are few dentists who will attempt to furnish a report based on an incomplete examination. If it is granted that a complete roentgenologic examination is indicated for all medicodental patients, why is it not equally important that the same service be extended to those patients who present themselves for dental care only? If it is the aim of the dentist to conserve healthy teeth, and to promote oral health, then it must be agreed that complete dental roentgenograms are even more important to the dental than to the medical examination.

A complete roentgenologic examination is, in all fairness, due all patients who present themselves in a dental office, especially for the first time. Such an examination will reveal incipient disease which can be remedied and corrected in time, and it will provide a more comprehensive basis for future treatment. Too often beautifully constructed bridges and other restorations are placed, unknowingly, on unsound and infected teeth,

to the future embarrassment of the dentist. There is also any number of cases in which dentures are placed over cysts, residual regions of infection, roots, and unerupted teeth.

It is essential that the roentgenogram from which the diagnosis is made be satisfactory, and it is often necessary to have several views of the same region in order to obtain the desired information. Unsatisfactory roentgenograms usually result from one or more of a few common errors that can be corrected. These errors are peculiar to, and more or less constant for, the region in which they occur, and usually result from improper placement of the film packet or incorrect angulation of the roentgen-ray tube.

In the interpretation of dental roentgenograms one must first have a knowledge of what is normal, realizing, of course, that there are wide structural variations which are well within normal limits. Unfamiliarity with these variations often leads to misinterpretation. Radiolucent regions are mistaken for cysts and for residual regions of infection, in some instances, and this often leads to exploration and other surgical operation which is not justified. Added to a knowledge of that which is within normal limits, one must be able to recognize and identify the abnormal findings. Recognition is not sufficient, however; it is by far more important to know something of the significance of such abnormalities. Findings which are in themselves insignificant may have assumed grave importance in the minds of many, while other findings may have been underestimated or totally ignored.

Median anterior maxillary cysts are situated in the incisive canal, and at least three of every 100 persons have them. They are supposedly derived from epithelial

remnants which persist in the interincisive region. It is difficult to distinguish, roentgenographically, between these cysts and large anterior palatine fossae. When such cysts are displaced laterally, and are super-imposed on the central incisors, they may also be mistaken for dental root cysts. They are invariably limited as to size, which may account for the fact that they are almost without clinical significance. It is only when they become infected, or when they exert pressure on the content of the canal, to produce pain, that surgical interference is indicated, and such instances are rare.

Interdental canals are small canals in the alveolus, situated between the teeth and along the long axis of the teeth. They are more easily demonstrated in a thin alveolus, and in the mandible may often be traced to their source, the mandibular canal. In some instances the canals broaden as they approach the crest of the alveolus, and such canals may be mistaken for alveolar destruction, particularly if the roentgenogram has been overexposed.

Hypercementosis is an excessive growth of cementum, and is seen radiographically as an enlargement on the root of the tooth. It can be distinguished from osteosclerosis by the periodontal membrane, which in hypercementosis will be seen to leave its normal path and extend itself to envelop the enlarged portion. There is a greater incidence of hypercementosis among vital teeth than among non-vital teeth, which disproves the contention that infection is an important factor in the etiology. About 65 per cent. of all teeth in which hypercementosis occurs are bicuspid. The large number of bicuspid involved may account for the greater incidence of failure in extraction of these teeth. Some dentists have assumed that this

hyperplasia of cementum is a direct cause of arthritis, and because of this many such teeth have been removed. Extraction of vital teeth with hypercementosis in the hope of relieving arthritis or any other systemic ailment is to be discouraged.

Pulp nodules are present in at least 80 per cent. of teeth, and they can be demonstrated in about 50 per cent. of all dental roentgenograms. They may be microscopic, or they may fill the entire pulp chamber and root canal. They are found as commonly in normal, healthy teeth as in diseased teeth. Pain is the most frequent symptom of complications associated with pulp nodules. This pain is neuralgic, and often presents a difficult problem in determining the focal spot, in view of the fact that pulp nodules, if present, are usually found in the pulps of several teeth.

The unfounded claim that pulp nodules are a direct cause of formation of stone elsewhere in the body has resulted in extraction of many useful teeth. The incidence of pulp nodules among patients with gallstones, renal stones, and so forth, is, however, no greater than that of those whose physical examination gives essentially negative results. A warning against unnecessary sacrifice of teeth on this assumption is therefore justified. One should consider, however, that these nodules may be responsible for degeneration and devitalization of the pulp, thereby creating foci of infection, which in turn may be direct etiologic factors in the production of disease.

Following completion of growth of a tooth, there is usually a gradual decrease in size of the pulp chamber. This is a normal physiologic process which may continue until, in old age, pulp chambers, and pulp canals as well, may be completely obliterated. In some instances the decrease in size

is rapid, and the pulp becomes small relatively early in life. In many teeth, however, the pulp chambers fail to diminish in size, and when the patients are aged fifty years or more, the pulps are still very large. The presence of such a condition involves danger of exposure of pulp in preparation of cavities, and the only reliable means of being forewarned is by roentgenographic examination. Such an examination is especially indicated of teeth for which porcelain jacket crowns are being considered.

Dental roentgenograms of adult persons occasionally reveal small, radiopaque bodies situated in the alveolus adjoining the bicuspid teeth; these have been referred to as "tooth buds." Microscopic sections of these bodies disclose fragments of deciduous roots encapsulated in hyperplastic cementum.

The question arises as to how it happens that such roots remain in the alveolus. When the crown of the permanent tooth extends well up between the widely bifurcated roots of the deciduous tooth, absorption of the roots may begin at a point well up toward the bifurcation and continue transversely through the roots while the apex is undergoing little, if any, absorption. When the crown is removed, or becomes exfoliated, the root remains in the alveolus between the permanent teeth. One or both roots may remain in this way. Retained deciduous roots that are found in edentulous regions may be mistaken for tips of the roots of permanent teeth, and the surgeon may be accused of having failed to remove completely the permanent teeth. In such instances, a roentgenogram obtained before removal of the tooth may prove to be an invaluable record. There should be little difficulty in distinguishing deciduous roots from the so-called enamel pearls. The latter are more radiopaque and can be recognized even

when superimposed on large teeth.

The value of insuring retention of the deciduous molars until the permanent first molars have erupted and established occlusion has been stressed repeatedly. That the deciduous molars may also be of value beyond that time is evidenced by the large number which have proved to be useful even in the latter part of adult life. It has been noted that if a deciduous molar is retained to adult life, its developing permanent successor is absent in nearly all cases, and it is therefore important that every effort be made to retain the deciduous tooth, at least until the patient has reached an age when it will be practical to replace it with a permanent restoration. If proper precautions have been taken, a large percentage of these persistent deciduous teeth need never be removed and replaced. In all cases in which they have been retained beyond the normal time for exfoliation, a dental roentgenogram is indicated to determine the absence or presence of the developing permanent successors. Removal of a deciduous tooth that is still intact, without considering all possibilities for its future usefulness, must be looked on as a technical error.

With the increasing tendency to make complete dental roentgenograms a part of oral examination, it has been found that supernumerary teeth are more common than former estimates would indicate. This can be accounted for by the fact that at least 75 per cent. of them remain unerupted. The incidence is at least ten in 1,000 or one in 100 persons. Listed in the order of frequency of occurrence are incisors, molars, bicuspid, cuspids. Some of the complications associated with them are delayed eruption and noneruption, separation, and malposition of the permanent teeth. Removal of these teeth at an

early age may be a means of avoiding the majority of these complications. A characteristic of upper supernumerary central incisors is a marked tendency to formation of cysts. The incidence of dentigerous cysts among patients who have these teeth is more than 5 per cent. When one considers the difficulty of removal of, and the possibility of injury to, the permanent incisors, a conservative attitude is undoubtedly justified. In view of the relatively large percentage of cases in which cysts develop, it is important that periodic roentgenologic examinations be advised so as to prevent the extensive loss of teeth, and other possible complications.

Compound, composite odontomes almost always occur in the cuspid regions. They are seen in the roentgenograms as a bundle of definitely formed, diminutive teeth, which may be held together by a mass of soft tissue. They are often responsible for the noneruption of the cuspid. Early recognition and removal of the odontomes will allow normal eruption of the cuspid. A small percentage of the odontomes which are allowed to remain are responsible for the formation of dentigerous cysts, whereas, some others become infected.

Complex, composite odontomes occur most commonly in the posterior regions, and are seen as a conglomeration of tooth structure, which may or may not include fully developed teeth. They are invariably larger than compound, composite odontomes for they manifest a tendency to continued growth. They may become infected or may reach sufficient size to produce pathologic fracture.

The cementoma is a structure which, until recently, has not been generally recognized. It is a small tumor of connective tissue origin attached to the apex of the tooth, and it does not contain any dental

structures other than cementum. Any one of the teeth may be involved, although about 90 per cent. of them are confined to the mandibular incisors. Mistaken diagnoses based on roentgenologic evidence depend largely on the stage of development at which the tumor may be when observed. In the incipient stage, the pericemental membrane is thickened in the apical region, and may resemble the thickening so often associated with traumatic occlusion. With increase in size of the radiolucent area, cementoma is prone to be confused with granuloma or dental root cyst. Tumors which have reached a stage in development in which cementum is present in sufficient amounts to give radiopacity may be mistaken for regions of osteosclerosis, but are more often diagnosed as calcified granulomas.

Because of the more common occurrence of cementomas with mandibular incisors, radiolucent areas at the apexes of these teeth should suggest the possibility that one is dealing with this type of growth; particularly is this true if the teeth are vital, if their color is normal, and if there is no previous history of injury or pulpitis. Although it is almost certain that the tumor has its origin in the peridental membrane, it is likewise apparent that periapical infection does not play a part in its development. The pulp of the tooth affected invariably remains vital and healthy. The tumor is usually limited in growth and remains relatively small; therefore removal is rarely justifiable, particularly in cases in which, to remove the tumors, healthy and vital teeth must be devitalized or sacrificed. Relief of excessive incisal stress on the teeth involved is no doubt indicated.

The occurrence of cysts is relatively common in the maxilla and mandible, and most of them orig-

inate from the dental system. The one that occurs with greatest frequency is the radicular, or dental root cyst. It is evidenced by a well defined and definitely circumscribed radiolucent area in proximity with, and associated with, the roots of non-vital teeth. Next in order of frequency is the follicular or dentigerous cyst. It originates from the enamel organ of the tooth follicle, and is associated with unerupted teeth, supernumerary teeth as well as those of the normal series. The crown of the tooth is within the cyst, and the root is usually well attached in its bony socket. This cyst presents no difficulty in diagnosis, for its relationship to the unerupted tooth is usually typical. Another cyst of dental origin, which occurs less frequently, is the adamantinoma of cystic type. Occasionally cysts of traumatic and indeterminate origin may be seen, which develop independently of the dental system. A marked tendency to extensive growth of cysts often results in the loss of many sound teeth, and in some instances pathologic fractures of the mandible. Roentgen rays have been a means of recognizing cysts while they are still small, and many complications have been avoided by early removal. Removal of the offending tooth only is not sufficient, for the cyst may persist and continue to grow following tooth extraction.

Introduction of the bite-wing roentgen films has made it possible to discover all cavities in their incipient stage, so that they may be filled at the most opportune time. Particularly does this apply to cavities on the interproximal surfaces that are inaccessible to examining instruments. These surfaces can be examined roentgenographically more efficiently, more quickly, and more easily than by any other means. Besides caries, the bite-wing film will reveal in-

ipient periodontal lesions, deposits, and defective restorations. This film is a big step toward true conservation of teeth, and a markedly improved service can be extended to patients who come for periodical examinations if adequate use of bite-wing films is made. One must keep in mind, however, that the interproximal roentgenologic examination is not a substitute for the general dental roentgenologic examination.

As many teeth are lost from periodontoclasia as are lost from caries. Many are lost through indifference, and a countless number of teeth are lost because the disease is not recognized in its early stages. It has long been recognized that the incipient stages are apparent in the roentgenogram before they are evidenced in the tissue of the gum. In the presence of gingivitis and gingival suppuration the roentgenogram is the only accurate means of determining the amount of alveolar destruction, thereby giving a basis for prognosis. It is generally agreed that the prognosis for retention of multirooted teeth with the bifurcation involved, and single rooted teeth around which destruction has reached the apical third of the root, is not good. The significance of periodontoclasia as a source of focal infection has been, and still is, greatly underestimated. Extraction of periapically infected teeth, and retention of others with deep septic pockets which are allowed to remain septic, is a most inconsistent procedure.

When fully erupted and in proper alignment the third molar is a valuable tooth, and every effort should be made to retain it. In many instances, however, this tooth fails to take its proper place in the dental arch. When this occurs, roentgenologic examination is a valuable aid in disclosing any complications that may be associated with it. Caries and erosion

on the distal surface of a second molar, caused by an impacted third molar, are not uncommonly found. Dentigerous cysts occur more frequently with third molars than with any other tooth, due to the fact that a large proportion of them fail to erupt. Auricular pain may be caused by unerupted third molars that exert pressure on the mandibular canal. It is not necessary, in such instances, that the offending tooth be fully calcified, for several cases have been observed in which the follicle of a developing third molar has exerted sufficient pressure to cause pain in the ear. Investigation of the third molar is therefore indicated when auricular pain of indeterminate cause is present. All third molars which are partially erupted must be considered as possible sources of focal infection. Eruption through the soft tissues is not always necessary, for the enamel organ may become infected through a break in the gingival attachment on the distal surface of the second molar.

There is no one source of dental infection that is more often overlooked than the septic crypts which are so often present on the distal surface of erupted third molars. Many are overlooked because the film packet is not placed sufficiently far distally. Organisms obtained from the deeper portions of the crypts have the same powers of elective localization as those obtained from the apexes of infected teeth, and are therefore important from the standpoint of focal infection. Their local significance cannot be over-estimated. They may serve as sites of primary incubation for Vincent's organisms, and when acutely infected may be accompanied by cervical adenitis and severe cellulitis.

Torus palatinus and torus mandibularis, when present, produce radiopaque images in the roentgen-

ogram. They are formed by hypertrophy of the cortical layer of bone, the former situated in the median line, on the palate, the latter, more often on the inner surface of the mandible, in the cuspid region, and occasionally in the third molar region. They are of clinical significance only when they are sufficiently prominent to interfere with the wearing of a denture.

Hyperplasia of bone which is the result of an infectious or inflammatory process is often evidenced by a radiopaque area at the apex of a pulpless tooth. There is a tendency for it to disappear completely following removal of the tooth. A form of hyperplasia of bone which is often referred to as "eburnated bone" replaces the cancellous bone, and in some instances will cause resorption of the roots of teeth. This process is usually symptomless, although in rare cases it may be attended by neuralgic pain, which removal of the affected tooth will relieve. The hyperplastic bone usually remains following removal of the tooth, but there is no further progression, and it has no pathological significance.

Portions of sclerotic bone are often mistaken for root tips, particularly so when they completely fill a former tooth socket. Although such areas are well tolerated by bone and are usually insignificant, one must keep in mind that any bone which has totally lost vitality may be a source of residual infection.

Occasionally the presence of sublingual and submaxillary calculi is evident in dental roentgenograms. These calculi are frequently recognized on dental roentgenograms of the edentulous mandible, for when teeth are absent there is a tendency to place the film packet deeper, to include a larger portion of the floor of the mouth and its content. Calculi which are situated nearest the mandible are more likely to be

included. Calculi are mistaken for bone whorls, teeth, and roots of teeth in some instances, and if surgical measures are instituted, embarrassing consequences sometimes result. Careful digital examination of the floor of the mouth should be made, especially in cases in which shadows appear that cannot be interpreted definitely. A bite film is indicated as a part of such examination. It should also be remembered that the image of calculi in Stenson's duct may appear on roentgenograms of the upper molar region, and may be confused with bone whorls and root fragments.

If teeth have been sensitive for a time following insertion of fillings or crowns, roentgenologic examination is indicated, even though the pain has subsided and there have been no other local symptoms. The degree of pain is not always a true index of whether degeneration of the pulp has taken place, for it is well known that infection of pulp may develop without any warning symptoms.

The teeth which are most often subjected to traumatic injury are the upper central incisors. Not infrequently fractures of these teeth may be noted in routine roentgenologic examinations. On questioning, a history of a blow is usually given. Often the injury may have been so slight that the incident cannot be recalled. Study of a large series of fractured teeth revealed that the majority of those with fractures in the apical half of the root retained their vitality. Prognosis for retention of vitality in teeth with fractures so situated is therefore good, provided displacement has not been too great.

The presence of Hutchinson's teeth is considered a positive finding in the differential diagnosis of congenital syphilis. Only the teeth of the permanent series are affected; therefore, without the aid of

roentgenograms, it is impossible to obtain information as to the status of these teeth before the patient is six or seven years of age. The central incisors, with the crown typically shaped like a screw-driver, and with an incisal notch, can be demonstrated several years before the teeth are erupted. Hutchinson's teeth should not be confused with teeth in which there are hypoplastic defects owing to arrested development.

Early stages of osteomyelitis may be seen in the roentgenogram as irregular areas of rarefaction which tend to fuse into one. The rarefactions are not confined to the body of the jaw but may extend well up between the teeth, with the result that the teeth are often loosened. In its later stages sequestra of marked radiopacity may be seen in the roentgenogram. Destruction of bone associated with tertiary syphilis may closely resemble the usual osteomyelitis. There is the marked periosteal involvement, however, which distinguishes the condition from osteomyelitis, and a Wassermann test is of value in making a differential diagnosis.

Osteomas and hard fibromas may occur as central growths in the bones of the jaws. The former are extremely radiopaque, whereas with the latter the involved bone becomes radiolucent, but the radiolucence is less than that of cystic cavities. The two tumors named are usually limited in growth, but in some instances may become sufficiently large to produce marked deformities.

In some diseases in which the skeletal structures in general are involved, the maxilla and mandible may be subject to the same lesions and changes that are manifested elsewhere. Diagnosis from the dental roentgenogram is not necessarily to be expected, but one should be able to recognize that

deviations from normal are present, and the patient should be referred to a physician for a general physical examination which should include roentgenologic examination of other bones. In osteitis fibrosa cystica the bone marrow is replaced by fibrous tissue with a tendency to formation of cysts. Evidence of osteitis fibrosa cystica is usually seen in the dental roentgenogram as diffuse areas of multiple cysts, which are irregular in outline and size. In some instances the normal cancellations may be completely changed, so as to run parallel with one another. The roentgenogram then reveals bone which has a homogeneous appearance, and which is less dense than normal.

Osteitis deformans usually occurs when patients are past middle life. It often involves the maxilla, but rarely affects the mandible. In the early stages typical radiolucence near the roots of the teeth may be seen. As the disease progresses, overgrowth of bone occurs to produce a radiopacity in the roentgenogram which is similar to that seen in osteoma. Marked deformities result, and cases have been observed in which the upper teeth have moved laterally to such an extent that they close over the lower teeth much like the lid of a box.

Xanthomatosis most often occurs in children, and involves the reticulo-endothelial system. The dental roentgenogram is characteristic. The bone of the jaws appears to melt away, particularly in regions in which the teeth are unerupted and developing, with the result that partially formed teeth, with the entire follicle, may be exfoliated.

In acromegaly the dental roentgenogram usually reveals large maxillary sinuses. Overgrowth and thickening of the malar process are present that offer some difficulty in obtaining satisfactory views of the

upper posterior teeth. An overgrowth of the dental arches effects a more or less definite separation of the teeth.

Leontiasis ossea is hyperostosis of the bones of the skull and especially of the lower jaw. The roentgenogram discloses extreme radiopacity for the bone is increased in density and often becomes very hard. The maxillary sinuses sometimes are completely obliterated, even in the earlier stages of the disease, and evidence of their absence, obtained from a dental roentgenogram, may be an aid in arriving at a diagnosis of leontiasis ossea.

Evidence of multiple myeloma has been noted in dental roentgenograms of the mandible. There is bilateral involvement, and the rarefactions produced closely resemble multilocular cysts of dental origin.

In making a dental diagnosis and in determining a course of procedure for restoring function and oral health, one must consider the age, occupation, habits, and physical condition of the patient. The attitude one has to take

toward the pulpless tooth is very much dependent on these factors, because, after all, such teeth are potential sources of infection, and are tolerated not because they themselves are safe, but because the general resistance of the patient is high. If pulpless teeth are found in the mouths of patients with diseases which arise from focal infection, one must consider all such teeth as possible sources of infection regardless of the amount of rarefaction at the apex. Too often the clinician and dentist consider that the amount of infectious material absorbed is in direct proportion to the size of the area of rarefaction seen in the roentgenogram.

There is increasing interest in roentgenology, and a growing realization that it is indispensable in any dental practice. Indications for its use cover an unlimited field, and if dentistry continues to progress, the day will come when the roentgen unit will be as common a piece of equipment in the dental office as the dental chair.

The Technique of Constructing Partial Dentures

*T. C. Trigger, D.D.S.,
St. Thomas, Ontario*

Casting Saddles and Palatal Bars

The construction of saddles and palatal bars may be accomplished either by swaging or the casting process, and the selection of methods will be determined according to the case presents; in some instances will be far better to carry out the technique of swaging the saddles as the process gives better results. However where saddles and palatal bars are used may be advisable, and is a simple matter to cast the saddles and the bar into two pieces.

In the construction of lower cases, a better plan would be to cast the saddles and the occlusal lugs into one piece, and the already made bars are accurately fitted and shaped to the case, and then neatly soldered to the saddles with excellent results.

Careful consideration should be given to every detail of the work, the technician should make sure of an accurate reproduction of the soft tissues and the teeth which enter into the formation of the partial denture, with accurate investment materials in forming the model and the cast frame-work which will enter the formation of the denture, such as the saddles, bar and lug attachments.

Since the casting process has been introduced in the construction of partial denture, there has been also considerable advance made by the makers of dental golds, of

recent date, in supplying our demands in this class of prosthetic work, especially in the use of alloys of gold, and the writer would advise the beginner to use high Karat gold rather than lower grades, as better results will be obtained; also discourage the practice of making one piece castings and the casting of clasps continuous with the saddles. The merits and uses of the wrought and cast clasps have been already described in a former article.

In making partial cast plates care should be taken to get sufficient rigidity to the whole structure, so as to overcome any undue pressure exerted upon the casting, whereas if the casting is made too thin the gold base is liable to become sprung and there is no possible way of bending it back to its original form. To overcome this defect is to take a new impression from which make an accurate model; then separate the saddle from the bars and re-assemble the part on the new model. In some cases where there is only a small part of the casting defective due to warping or shrinkage of the gold, this part may be satisfactory cast on to the adjoining accurate fitting part, by so doing will avoid considerable work in making over the whole fixture.

Providing the constructed piece is made by the swaged process, and

if any re-adjustment has to be made, will be found much easier to reswage to obtain an accurate fit of the plate than by the casting method.

The technique of casting saddles with a palatal bar is easily done. After obtaining an accurate impression of the case a model is obtained therefrom; an outline pencil mark should be made of the saddles and palatal bar areas, so as to be a guide in carving the wax, but before placing the wax in position the model should be rubbed over with pulverized soap-stone or talcum powder to prevent the wax adhering to the model.

The next procedure is to select a suitable thickness of wax from 28 to 30 gauge as the case requires for strength, and the wax base which is for the saddles should be trimmed about 3 mm larger to allow for proper trimming of the marginal edges; then narrow strips of wax are formed around the outer margins of the saddles, the same gauge as was used for making the saddles and about 2 mm in width. This additional attachment of wax allows for proper security for the vulcanite, and also a nice rounded edge to the finished saddles.



Fig. 1.

Fig. I. Model showing waxed patterns of saddles in position, with a narrow strip of wax attached to

the marginal edges, and also wax loops formed to hold the vulcanite in position to the casting.

An additional thickness of wax is added to the outer margins of the bar to give strength and correct finish.

Narrow strips of wax about 2 mm in width are placed in suitable positions to form loops, these will give additional hold for the vulcanite, as shown in Fig I. (a).

After the waxing process has been completed, we are now ready for attachment of the sprues, these are best made of the same wax as has been used for forming the base patterns. These sprue forms may be readily made by warming a piece of wax and then rolling between the fingers until a suitable size is obtained, or more conveniently still, a sprue former gun may be used, as illustrated in Fig. 2. This sprue former can be had at the supply houses, or one may be made from an old metal syringe, by removing the needle and drilling a hole in the stem of sufficient size to make the sprue form. The softened wax is placed in the barrel of the syringe and pressure is applied to force the wax from the sprue opening, as shown in the cut, Fig. 2.

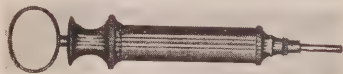


Fig. 2.

In such a casting it is advisable to have more than one sprue opening, as there is considerable space lying between the saddles and the bar, so it is better to use three sprues, by adapting them in this way will distribute the gold more readily in the casting process to all parts of the mold.

The position of these sprues will give considerable support to the wax form while being manipulated

in going through the process of investing. The sprues are all brought together at the highest point of the crucible former and converge at one central point, care being taken to have all the terminals of the sprues waxed strongly and smoothly to the saddle patterns, the bar and the crucible former, so as to prevent any mishap and cause an easy flow of the metal in the casting operation.

The wax form should be very carefully removed from the model so as not to cause any distortion; any particles of grease can be easily removed by using acetone. This will make a clean smooth model. Then the wax pattern is ready to be invested. The usual standard investments, which we obtain from supply houses, are excellently prepared. Care should be taken to mix them as directed by the makers. However, these investments are very similarly mixed in investing smaller inlay restorations. Finally the usual method of eliminating the wax from the mold and the casting of the plate is the same as for smaller ones.

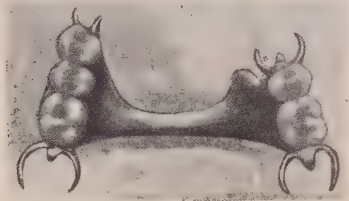


Fig. 3.

Fig. 3. Shows the completed denture with clasp and lug attachments, also with the teeth vulcanized in position.

Casting Boxes For Dowel Crowns

The use of dowel crowns in partial denture castings produce excellent results, not only for their stability but also restoring the

lingual alignment of the teeth to simulate the natural ones.

In Fig. 6 will be described the technique of casting boxes for dowel crowns. In preparing the wax saddles the base plate should be 30 gauge, and two thicknesses of wax are applied upon the model and smoothed nicely in position. When this has been accomplished the dowel crowns are suitably selected to fit the bite.

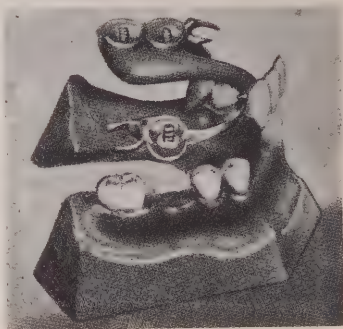


Fig. 4.

Fig. 4. Showing model of an inferior case where three central incisors are missing, two left and one right molar teeth.

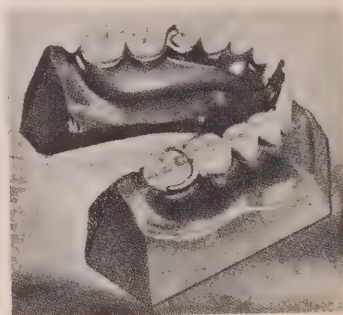


Fig. 5.

Fig. 5. The completed denture with the clasps, lugs and the dowel crowns cemented in position.

The next procedure is to oil the occlusal surfaces of the porcelain teeth, while the crowns are in this position they are indexed with plaster, which should extend over their occlusal surface as well as covering the approximal natural teeth. This imprint will keep the teeth in their relative position while being ground and adjusted in position in the waxing process.

After the plaster had become thoroughly set, the tooth (or teeth) is lifted from the model, the proximal surfaces of the crown is cut in an oval form; this will allow ample space for the intervention of gold in the interproximal spaces. On the proximal surface of the crown approximating the natural one, this surface should be ground slightly away up to the occlusal surface to allow for the proper application and retention of the clasp and lug support. The proximal surfaces of the crowns about two-thirds their dis-

pin, this will allow the whole crown to become easily removed from the boxing.

After the wax boxing has been formed it is now ready for the process of casting. The wax form is gently lifted from the cast base plate and a sprue is placed on the ternal surface, in such a position so as not to interfere with the internal surface where the porcelain tooth is to be permanently inserted.

Now the case is ready to be inserted on a sprue former invested and then in the casting ring and finally the heating and casting process has been carried out. The case is removed from the investment and then the casting is approximately finished and the boxing is now ready to solder in position to the base plate casting.

The technique of constructing boxings for the reception of the other teeth is the same as above described.



Fig. 6.

tance from the base to the occlusal surface, this will allow for gold to fill the interproximal surfaces. Experience has proven that it is good practice to fill the spaces as it will prevent any accumulation of particles of food lodging between the teeth—thus making the denture more comfortable.

The layers of wax that were placed upon the model are now removed and replaced with one thickness of 28 gauge and carefully waxed to the model extending about 6 mm beyond the plate outline.

Over the crown (or crowns) a thin coating of oil is smeared, also in the hole which engages the dowel

Fig. 6. A. Shows cast boxing with dowel crown attachment; B. Porcelain molar tooth selected for the boxing; C. The porcelain tooth adjusted to the boxing.

The boxing may be made by swaging, which is a very easy matter. In carrying out the technique in forming the boxing, first operation is to burnish a suitable thickness of gold over the end of the tooth and upon the sides, then the tooth is placed in the cup of a small crown swager, such as is used for making gold cusp forms, which is surrounded with soft modeling compound. After the compound has been allowed to harden, it is then

placed in the swaging device and the plunger which has a roll of soft rubber attached to the end is applied over the top of the pure gold, and with the sudden forcing of the plunger swages the gold to all parts, thus making a perfect form of the boxing to the shape of the tooth.

The swaged boxing is lifted from the tooth, care being taken not to distort its outline, and also the tooth is removed from the investment compound, then a hole is punched in the centre, and the size of this opening will depend upon the form of the tooth selected for the case, whether a dowel or tube tooth, and the length of wire clasp around will depend upon the depth of the dowel or the length of the tube opening in the tooth and the gauge of the wire is selected to the size of the opening.

After the wire has been placed in position in the boxing, the tooth slipped in place to locate the exact position of the wire, then the tooth is carefully removed from the boxing. Care should be taken to secure the pin to the boxing by smearing a very small amount of wax where they unite so as to secure their position while the investment process is carried out.

The boxing with the pin attachment is now ready to be invested in sump or some wet asbestos may be packed very carefully around it to fill the boxing. Now the case is allowed to thoroughly dry, after which it is placed upon the soldering block and a small piece of high karat gold is used to solder them together.

The tooth is then slipped into place to see if it fits, if it does not accurately fit, do not reswage, but

burnish the gold to fit about the tooth. Finally the excess of gold and wire is cut away from the boxing, the case is now fitted to the base plate casting and waxed in position to it to get the proper occlusion; the preparation of the other boxings for the case is carried out in the same as has been described, then they are securely soldered to the base plate.

In reference to the use of clasps, experience has proven that cast clasps are not so satisfactory as those made of wrought or rolled alloys, for in the casting process the clasp material undergoes considerable physical changes, thereby destroying plasticity of the metal.

The success of those removable fixtures will greatly depend upon careful consideration, and the position of the clasps in their relation to the anatomical structure of the teeth which supports them, so that, there will be a correct distribution of anchorage support to the artificial attachment.

It is very necessary in constructing partial dentures where clasps are used to have lug attachments constructed firmly to the clasps, and the purpose of the lugs is to give perfect occlusal rest to the denture. These lugs should be made strong, and the occlusal contact should be made with accuracy so that in the process of mastication perfect attrition may be carried out without interfering with the stability of these supports. The writer has observed in some cases where the lugs have been completely worn away on account of an imperfect occlusal contact of the opposing teeth, and also by their weak construction.

The Cause of Failure in Gingival Third Cavities

When subjected to the varying temperatures of the mouth (ice cold or hot drinks), practically all of our gingival third amalgam fillings visibly bulge from the cavity to an unbelievable degree, irrespective of which approved, non-shrinking dental alloy is used. In the use of our properly made, high grade dental alloys this class of amalgam failure *is not* the result of carelessness or neglect of the operator, nor is it due to physical faults in the alloy used, *but is the result of the use of our present taught faulty condensing technique*, which may be explained as follows:

With the flaring enamel walls and the very limited depth of dentine, in which the retention form must be located, the retention is so *insecure* that when the amalgam is packed with sufficient force at one side or end of the cavity, it visibly moves at the other side or end of the cavity. To obviate this disturbing movement of the amalgam we are compelled to moderate our packing force to such extent that we fail to express the dangerous excess of mercury (that is retained following the mixing to provide the necessary working plasticity during the condensation of the filling). The retention of this dangerous operating excess of mercury (which forceful packing will *alone* expel, after it has served its operating purposes) will ruin any amalgam filling that is daily exposed to the fluctuating temperatures of the mouth.

The new burnishing technique will be found the most effective chair operating means for the most complete removal of this dangerous excess of mercury and

free tin (the eutectic), which, if allowed to remain, will form a soft, low fusing matrix round the crystals of the strong and stable amalgam which if not richly diluted with the eutectic would remain strong and stable. To indicate the success of the burnishing technique in the hands of average skilled operators, I present the following test report, typical of all other group tests I have made:

In one study group of 105 experienced operators, the following test procedure was carried out: Each operator was required to make fillings as in every-day practice, using his own dental alloy and equipment. The test fillings were made in round cavities 8 x 2.5 millimetres. These fillings were tested within one hour after being made and were exposed to a gradually increased air pressure of three pounds, an amount of air pressure beyond mouth possibilities. The air was admitted at the junction of the floor of the cavity with the surrounding cavity walls. Leaks appeared immediately and became increasingly apparent as the pressure was increased to the maximum of three pounds. Of the 105 test fillings made with our present taught packing technique, *92 leaked*, some badly.

Following an hour's demonstration of the burnishing technique, the same operators were supplied with duplicate test cavities and the necessary instrument and requested to apply the technique demonstrated, with the following results: Out of 105 duplicate test fillings made, as demonstrated, 91 remained non-leaking under the maximum pressure of three pounds.

These results have been demonstrated in the work of so many study groups that they stand *indisputable*. With such a record, the dependability of our present taught packing technique stands condemned.

Our Second Most Frequent Amalgam Failures Are Found In Approximo-Occlusal Restorations

These failures are almost *entirely* due to our neglect to restore correct anatomical form and smoothness of finish. In our effort to provide low cost tooth restoring service, we either make no serious attempt to restore anatomical tooth form and smoothness of finish of approximal fillings, or do so at a financial loss to ourselves. This poorly paid service is sufficient reason to explain its general neglect. A shapeless, rough surfaced, margin overhanging plug is a menace to daily masticating comfort and efficiency to the teeth and their investing soft tissues and to general health. Such work is dangerous and costly at any price and would not be tolerated if its injurious consequences were understandingly explained to the patient.

The most costly time-wasting feature of our present taught management of approximal fillings is a result of our faulty and insecure matrix adjustment, a faulty and insecure adjustment of the matrix that leaves much trimming, grinding, discing and stripping to be done following its removal. The present used mechanical means of matrix adjustment is so insufficient in its anatomical tooth form and margin adjustment and in the security with which the matrix is held in apposition with the cavity margins (when exposed to the forcible packing thrusts of a dependable packing technique) that they may be considered worthless. To save the serious loss of time involved in providing satisfactory

tooth form and smoothness of finish, a correctly shaped and solidly secure matrix adjustment will restore such perfection of anatomical form and smoothness of finish to the filling that *no* trimming, discing or stripping remains to be done on the approximal surface following the removal of the matrix. Further, a second appointment for polishing becomes unnecessary.

When we can be assured of this perfect and solid matrix adjustment our approximal filling difficulties and loss of time involved will be removed and amalgam fillings of this perfection of form and finish where their use is financially or otherwise indicated, will be found dependable.

The vitally important practical phases of successful and economical amalgam management *cannot* be taught from lectures. These technical operative details must be visualised in actual and practical work. This it will be my pleasure to try to do insofar as time and conditions will permit.

The Manner and Time of Mixing

The high grade dental alloys are most dependably mixed in a deep glass mortar using a long handled wooden pestle for one to two minutes and about the same amount of time in the hand. This procedure should produce a very smooth, fine textured plasticity, entirely free from any tendency to crepitate, until subjected to compression. This is the ideal plasticity for the successful use of the first one or two pieces of amalgam placed (except for filling narrow pit and fissure cavities).

The character of the plasticity above indicated is of extreme importance. First, it can be depended upon to enable us to control the setting during the time taken for the application of a thorough packing, and second, to provide a fine textured, microscopically plastic, easy flowing amalgam. If this fine

textured, easy flowing plasticity is not provided for, all other operative measures to attain perfect adaptation will generally fail, whatever approved dental alloy is used.

How to Keep the Quick Setting Alloys Workably Plastic as Long as Desired

First: None of a properly used excess of mercury should be expressed (as is generally taught and practised) from the very plastic mix. This wet plasticity is the most favorable in the use of the first one or two pieces of amalgam placed to cover the cavity floor and its angles. Second: As each succeeding small piece of amalgam is separated from the gradually hardening standing amalgam mass, it is returned to the palm of the hand to be again kneaded for one to four seconds. This secondary kneading of each piece of amalgam separated is the secret of maintaining the desired plasticity during the packing period.

If after the secondary kneading the amalgam appears too plastic, enough of its excess mercury may be pinched out to meet the operator's needs, following which it should not be allowed to stand. If allowed to stand it very quickly loses its adaptability. Following the use of the first one or two pieces of amalgam packed, the plasticity of each succeeding piece should be increasingly reduced, until for the finishing of the filling the amalgam remains just sufficiently plastic to unite securely or weld with the body of the filling. If, during the packing, the secondary kneading fails to restore the desired plasticity, we may knead into the stiffened amalgam the semi-fluid amalgam expressed in the final kneading and during the packing to restore its plasticity. To add fresh mercury for this purpose would be harmful.

As before stated, Dr. G. V.

Black, in his "Operative Procedures," says: "The whole secret of perfect amalgam work is contained in the one word, 'compression'." This is particularly true of a packing technique, but is, in a much less degree, true of a burnishing technique. With a packing machine that records the number and weight of each packing thrust applied in making a filling, I find that the average careful dentist rarely makes thrusts that reach three pounds.

In my own test work I find that I am unable to seal cavities dependably with a packing compression of less than 2,000 pounds to the square inch, if not in the body of the filling, at least along its surrounding cavity walls. Need I also call your attention to this fact: Amalgam packed under 2,000 pounds compression exerts a pressure against the surrounding cavity walls of 100 to 150 pounds to the square inch, a dangerous pressure when applied against a thin, elastic wall of dentine that closely approaches a pulp. *In my opinion, it is this packing pressure and its permanently irritating effect that makes pulps so susceptible to any slight added shock, such as thermal changes, which often occur in our amalgam work.*

To give a 2,000-pound compression to the square inch with a three-pound packing thrust is only made possible by the use of pluggers 1 millimetre or less in diameter, and the successful use of amalgam pluggers of this small diameter is extremely difficult and limited. The use of very small pluggers in the body of the filling would tend to chop the amalgam instead of compressing it.

The impracticability of condensing the body of the filling, except immediately, against the cavity walls with small pluggers, has led to the development of a continuous-stroke burnishing technique, which,

in the hands of the average operator, has shown better results in strength and adaptation. This bur-

nishing may be depended upon for open cavities devoid of point angles.

Heredity as a Factor in Cancer

Perhaps it would be in the field of inheritance that most information would be collected. Many physicians do not believe in inheritance of tumors because they feel there is so little evidence for it. Only a small part of the hereditary records are ever published because the physician is too busy curing people to write about his patients, unless he thinks the case is unusual. Another reason why physicians do not always appreciate the significance of inheritance is because the different members of a family may go to different doctors, and each one has rather a piecemeal view of the family. In one instance I know of, five different surgeons operated upon three members of one family for five different tumors. Even if the family history was carefully collected in each of these instances, only the fifth surgeon would know the whole story.

The knowledge that cancer is inherited will be made convincing to the general practitioner only when such a mass of data has been collected. Such knowledge would be beneficial, as two illustrations will show. A man of 52 was operated upon for stomach cancer. A week later his 54-year-old brother came to the same surgeon with exactly the same type of tumor in the same region. There was a third brother

of 50. The surgeon wrote me that he was going to examine the third brother every six months for stomach cancer, and if the brother should get it the surgeon would find it at the earliest possible moment.

An English surgeon had a patient in whose family several members had died of rectal cancer. He examined her, although she had no symptoms, found the polyps which are so often the forerunners of rectal cancer, removed them, and with them the site of the cancer which she would have had later on. Thus heredity in tumors recognized by these two surgeons acted as a source of prevention.

We are told that cancer is so common that two members of a family are apt to get cancer just on the basis of chance. If this were true, husband and wife should get the same kind of tumor as frequently as parent and child or brothers and sisters. Husband and wife are two members of a family, and they do not complicate the problem by being related. In a series of stomach cancer cases I found that related persons in the family were affected ten times as frequently as unrelated persons, namely, husband and wife. Thus related persons get stomach cancer ten times as often as they should on the basis of chance. Such stud-

ies can be made only on groups of cases, no one physician having enough data of his own for such a piece of research, unless he be connected with a large cancer clinic.

Many people do not want to believe in the inheritance of cancer. They feel that if someone in their family has died of it they are doomed to die of cancer. Far from it. Just because one person in a family has blue eyes does not mean that every child in the family must have blue eyes. Inheritance in cancer means just this: if any person has died of cancer the other members of the family are more

apt to get that type of cancer and at about the same age than they are to get any other type of cancer. They may not get cancer at all. This is not a pessimistic outlook, certainly not more so than the fact which we must accept, namely, that of those of us over forty, one in every seven will die of cancer. It is really a helpful outlook, for it warns of the kind of cancer for which we should most be on the watch. We cannot be examined yearly for the hundred different types of cancer, but we can be examined for the type which seems to be affecting the members of our family.

An Assay

A chemical analysis of the human body reveals the startling fact that the average man of 140 lbs. is composed of enough water to fill a 10-gal. barrel, enough fat for 7 cakes of soap, enough carbon for 9,000 lead pencils, enough phosphorus for 2,200 match heads, enough magnesium for one good

dose of salts, enough iron for one medium sized nail, enough lime to whitewash a chicken coop, and enough sulphur to rid one dog of fleas. As junk at present prices we are worth about one dollar. When we hear that a man is worth a million dollars we know better.—*Can. Med. Journal.*

Canada's Medicine Bill

In the Financial Post we ran across an analysis of the costs of medicines to the people of Canada. Leaving out sundries, toilet accessories, etc., that make up drug store stocks, we spend \$38,000,000 a year for pills, syrups and salves in an effort to cure by self-medication. 80% of this is bought over the drug counter, without prescription. The introduction of new proprietary remedies are started on their

way through advertising, but then reliance is placed on one individual recommending the product to another to keep sales up. Dr. Ayer reputed to have coined the slogan "A clean tooth never decays" is said to have spent \$1,700.00 in one year's advertising. In the U. S. A. the space used for advertising medicines equals that of the automobile industry and exceeds that for foodstuffs.

Looking Backward

C. M. Carr Pyorrhea School

During the darkest days preceding the clean-up instituted by the Dental Educational Council of America the Carnegie Report tells us that the Illinois Legislature issued 28 dental school charters in a decade alone. Of one of these in particular, little is known, but it has features that place it in a class by itself. C. M. Carr instituted what he called the C. M. Carr School of New Dentistry, a centre of pyorrhea instruction in Chicago.

Mr. Carr came from Utah, where he secured a licence to practice dentistry by "affidavit" in 1894, when the first Utah Dental Act came into force. This was quite simple in the 90's for dentistry hadn't yet received the impetus to start it toward the position it occupies today. He moved to Chicago and opened his school, of which he was secretary-treasurer, dean, and faculty. His methods consisted in securing \$350.00 fees from dentists wishing to appear as specialists, for which they secured three weeks' instruction, a set of hooks and picks, and a diploma with a nice eagle on it.

From its inception Mr. Carr's school was in hot water with two different sets of authorities at the same time. As a charter from the Legislature was obtainable on the payment of a fee and a license for himself to practice impossible to obtain, the legitimate dental

State Board prosecuted him. He evaded a conviction on posing as a seller of instruments and swore he did not work on the teeth himself. This worked for a time. His other legal battle was also against licensed legitimate practitioners. His large set of scalers, to which he had given his name, were selections from nearly every set then in use. These he patented under No. 1,138,355 and started proceedings against Dr. Austin T. James of Chicago and Dr. Thos. Hartzell, of Minneapolis, outstanding men, for infringing his patent. The Dental Protective Association of America undertook their defence. The case went against Carr in the District Court, and dentistry defeated his appeal in the U. S. Circuit Court of Appeals.

An important point was cleared up in this case. If Carr had won out almost every dentist would have been liable for infringing on his patent rights and nothing would have prevented some other ingenious soul from doing the same to our cutting instruments.

In 1919 the Department of Education and Registration again proceeded against Carr, and he closed up never to reopen. The Attorney-General annulled the charter to his school, and Carr has become a memory of a peculiarly memorable stage in the development of our profession.

DENTAL SOCIETIES

Dentists Plan Busy Season

Plans for fall and winter activities of the Kent County Dental Association were made at a meeting of the executive held in the William Pitt Hotel, September 19th, with Dr. George Miller of Tilbury presiding.

The executive is looking forward to a successful season, its intention being to secure the services of some of the best clinicians in Canada and the United States to attend the meetings.

Members of the executive are Dr. Mills of Tilbury, Dr. McCutcheon of Highgate, Dr. J. M. Campbell, Dr. V. Kinzie and Dr. C. E. Higley.

were elected as follows: President, Dr. S. Bradley, Ottawa; Vice-President, Dr. D. H. Mallory, Brockville; Secretary-Treasurer, Dr. G. D. Hutchison, Ottawa; Auditors, Dr. W. C. McCartney and Dr. D. Armstrong, Ottawa. Program Committee: Dr. A. E. Shaver, Brockville; Dr. J. W. Ault, Prescott; Dr. H. A. Stewart, Kingston; Dr. Lawrence Martin, Ottawa; Dr. R. Robertson, Cornwall.

Prince Edward Island Dental Association

The Prince Edward Island Dental Association held its thirty-fourth annual meeting on the evening of August the 22nd in the Canadian Legion Rooms, Charlottetown, Dr. A. L. Purdy of Alberton presiding. The following officers were appointed for the ensuing year: President, Dr. A. M. Bell, Carleton; Vice-President, Dr. D. T. Wayne, Charlottetown; Secretary-Registrar-Treasurer, Dr. J. H. Ayers, Charlottetown; Dr. F. E. Smallwood and Dr. M. A. McGuigan were elected additional members, who with the above officers form the Dental Council.

Ottawa Man Selected to Head Dentists

*Eastern Ontario Dental Association
Ends Its Brockville Session*

Brockville, Sept. 19.—The fifty-seventh annual meeting of the Eastern Ontario Dental Association, which opened September 17th was concluded September 19th. The morning of September 18th was spent by the members at operating-room and table clinics, held at the Ontario Hospital, and conducted by Dr. Jarman, Toronto; A. A. Cameron, Ottawa; Dr. I. Hamilton, Ottawa; Dr. S. Bradley, Ottawa; Dr. Greave, Toronto, and Dr. Morrow, Ottawa.

At the business meeting it was decided to hold the 1935 annual convention in Ottawa next fall, with the final date to be selected by the Executive.

Officers for the ensuing year

Clinic Lectures Given at Dentists' Convention

Clinic lectures and demonstrations in dental work featured the session on September 14 of the Montreal Dental Club convention, being held in Sherbrooke, Quebec. About thirty members of the

Montreal Dental Club and a number of Eastern townships dentists gathered at the Magog House, when a pleasantly-arranged dinner was held under the presidency of Dr. F. H. Bradley and Dr. Valmore Olivier. Both Dr. Bradley and Dr. Olivier welcomed the members of the Dental Club to Sherbrooke, and Dr. Olivier advanced the suggestion that the Club meet annually in Sherbrooke.

The clinic lectures were given by Dr. Walsh, Dean of the Faculty of Dentistry, McGill University, and Dr. Rochon, of Montreal.

Officers Elected

The following new officers for the coming year were elected by the Dental Aides of Essex county at their first fall business meeting: Miss Gladys McMaster, president; Miss Jean Russell, vice-president; Miss Violet Murtagh, recording secretary; Miss Bessie Lamb, corresponding secretary; and Miss Audrey Dumouchelle, treasurer.

Dr. O. J. Davis, dentist, of Rodney, is in the hospital with a possible fractured skull and other injuries sustained in an automobile accident.

Essex County Dental Assistants' Association

The annual meeting of the Essex County Dental Assistants' Association took place on Wednesday, September 12th, in the Y. W. C. A., with a full attendance of members, and with the President, Miss Gladys McMaster, in the chair.

Reports of the officers were read,

after which an election of officers took place, resulting as follows: President, Miss Gladys McMaster; vice-president, Miss Jean Russell; recording secretary, Miss Violet Murtagh; corresponding secretary, Miss Bessie Lamb; treasurer, Miss Audrey Dumouchelle.

A busy year of activities is anticipated by the Association.

Essex County Dental Assistants' Association

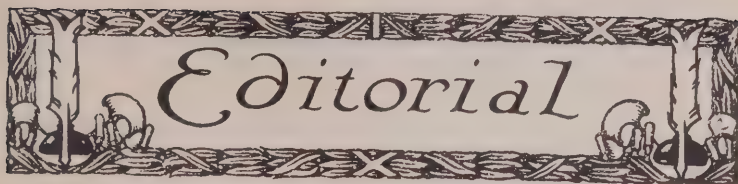
The regular monthly meeting of the Essex County Dental Assistants' Association was held in the Park Apartments on October 3rd, with the president, Miss Gladys McMaster, in the chair.

New members were welcomed, several committees elected, and plans went forward for a "Millionaires' Party" in the form of a Hallowe'en Masquerade, to be held the latter part of this month.

Following the business meeting, bunco was enjoyed by the members, after which a very delightful luncheon was served.

The Academy of Dentistry Golf Tournament

The Academy of Dentistry held its first golf tournament and "Get-Together" dinner at Thornhill Golf Club, on Friday, September 28, 1934. There was a very large attendance for golf and dinner and everybody reported a real good time. Dr. Harvey Reid, as chairman, had made very thorough preparations, and the dental dealers and manufacturers for the profession were very liberal in their contributions, and every item blended together to make the tournament a big success.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

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Ottawa.

BRITAIN—J. Menzies Campbell, D.D.S., L.D.S., F.R.S.E., Glasgow, Scotland.

VOL. XLVI

TORONTO, OCTOBER, 1934

NO. 10

The Dominion Dental Council

Leslie McIntyre

On looking over the biennial reports of the so-called D.D.C. for the last decade, little progress toward the rounding out of the Council's boundaries to make it a Dominion Council, other than in name only, seems to have been accomplished. At each meeting resolutions urging British Columbia to join the happy band have been passed but just what actual benefits would these provinces derive from such an alliance? Until definite gains can be demonstrated it is unlikely that anything along these lines can be really done.

The main work outside of the passing of the resolutions seems to be tinkering with the constitution, part of which includes details outside the sphere of the Council's powers. Under the B.N.A. act education and setting of standards for training is a Provincial right and has always been recognized as such. Yet consult Sec. 23 of the Constitution of the D.D.C. and nearly two pages are devoted to their conceptions of various varieties of preliminaries. When one realizes that the D.D.C. has no legal status of any kind, and that even if it had, these considerations are beyond its scope, one wonders.

Contrast with this the plain recognition of Provincial prerogatives in the Medical Council's Dominion Act of Parliament properly constituted under the laws of Canada.

Section (5)

The purpose of the council shall be

- (c) The determination and fixing of the qualification and conditions necessary for registration, the examinations to be undergone with respect to *professional subjects only*, and generally the requisites for registration; Provided that the council shall not determine or fix any qualifications or conditions to be complied with as preliminary to or necessary for matriculation in the study of medicine and for the obtainment of the Provincial licences, *these being regulated as heretofore by the Provincial authorities.*

Again Section (12)

- (a) No candidate shall be eligible for any examination prescribed by the council, unless he be the holder of a *Provincial licence*, or unless he presents a certificate from the registrar of his own *Provincial Medical Council* that he holds a medical degree *accepted and approved of by the medical council of the said Province.*

A trained legal mind compiled these parts in accordance with the rights and privileges laid down in our Canadian Constitution. I respectfully suggest that dentistry has the right to equal consideration.

A reply to one of our suggestions signed by the acting president of our university sums the matter up nicely and is food for considerable speculation.

Suggestion 3.

Proposal to do away with the Alberta Board licencing examinations and substitute therefor the examinations of the Dominion Dental Council.

"As the authority of the Alberta Board has provincial legislature sanction and as it is my understanding that the Dominion Dental Council—unlike in this respect the Dominion Medical Council—is not backed by act of the Federal Parliament, it would in my judgment, be unwise and premature to abandon the Provincial examinations—supported as they are by the law—in order to trust to a federal body, which is at present without statutory support."

The Dominion Dental Council

An Explanation

A. D. A. Mason, Secretary

There is no law prohibiting the seven agreeing provinces of the D.D.C. from using their chosen name. It is not a "so-called" but a real name. The provinces are quite within their rights.

The D.D.C. never attempts in any way to coerce provinces to join but always invites the several provinces of the Dominion to join this association of licencing bodies. Not with the selfish idea of getting but rather I think with the sole purpose of making a contribution to the advancement of Canadian dentistry, especially by raising and standardizing of qualifications for those entering the profession. The agreeing provinces seem to contribute this spirit. The council has as much right to require high preliminary qualifications from its candidates as it has to set the dental qualifications. There is nothing illogical in taking this position. In fact educated gentlemen are a greater credit to a profession than good technicians. The

D.D.C. does not interfere with provincial jurisdiction. It never has and never intends to do so. All the council does is to hold qualifications as high or higher than the highest agreeing province and in this way is a tower of strength to the licencing bodies of the various provinces.

It is no use harping on Federal legislation. The Dominion Parliament can do nothing about legislation until all the provinces enter the D.D.C. or some other national policy. This is one place in which British Columbia and Quebec might lend a helping hand and make a contribution to Canadian dentistry. A trained legal mind will be engaged when such time arrives. In the meantime, the D.D.C. is discussing policies rather than legal phrases. In the immediate past the council has had a committee of the Dental Members at Ottawa approach the government officials re Federal legislation. What more could be suggested?

The D.D.C. never made the proposal to do away with the Alberta licencing examinations. It only suggested that all the provinces might demand a D.D.C. certificate for registration instead of setting a provincial examination but Alberta would still retain its rights of setting such examination. It is only a way of setting a provincial examination—rights do not enter the question. If all the provinces used this method of examining candidates and accepted the D.D.C. examination instead of holding provincial ones, we would have one standard for all and there would be no lower grade standards of entrance to any province as exists at the present time.

The D.D.C. even with Federal incorporation would not be able to legislate for any of the provinces and would never wish to. Education is under the jurisdiction of the provinces and will always remain so.

What has the agreeing provinces gained by being members of the D.D.C.?

1. The raising of the standards of the Dental profession of this Dominion to the equal of the highest known qualifications.
 2. The help that collaboration of licencing bodies one with the other as to the individual member.
 3. The recognition of the D.D.C. holders by other licencing bodies within the Empire.
 4. A Dominion wide view rather than provincial.
 5. The D.D.C. holds a standard of ethics which to say the least is elevating to the profession as a whole.
 6. D.D.C. certificate-holders look out on a broader field of activity and a greater freedom of movement.
-

DENTAL NOTES

Dental Group For \$15,000,000 By Great West

Great West Life of Winnipeg has concluded arrangements for \$15,000,000 group insurance policy on the American Dental Association.

This is the initial coverage of a policy involving some 6,000 members of the Association. The 75 per cent. initial number required were secured during July and the policy issued. Applications are reported to have been coming in at the rate of several hundred a day with the company already in receipt of over \$100,000 in premiums.

Credit for placing the policy goes to S. Turnbull group sales agency department of the company's head office, and to R. J. Martin of the actuarial department.

Great West Life reports that July was the record month for all time both in applications and placed business. Total applications figure for the month was approximately \$20,000,000 and placed business exceeded \$19,000,000.

Dr. Flora, Ottawa, has been appointed, temporarily, to carry on dental services in place of Dr. Richardson, deceased.

To Attend Clinics

*Dentists From Hamilton Will
Journey to Montreal*

A delegation of Hamilton dentists, approximately 50 in number, will leave for Montreal to attend the tenth annual fall clinic, which

will be held under the auspices of the Montreal Dental Club at the Mount Royal Hotel, Montreal, on October 18, 19 and 20, according to a local announcement today.

A full program has been arranged and some outstanding clinicians and lecturers will address the convention during the three-day session. Special entertainment plans have been made for the delegates to the convention and also for the ladies, while a series of luncheons and banquets is also included in the program.

A Correction

We regret the publication of a note from Regina to the effect that F. W. Tait was guilty of selling morphine. He was declared "not guilty" by a jury.

Registration in Arts Lower at University

Registration in the first year of the various faculties at the University of Toronto was announced yesterday as follows: Arts, 963, as compared with 1,048 last year; medicine, 140, being one more than last year; applied science, 219, as compared with 226; household science, 12 as compared with 9 last year; Ontario College of Education, 464, as compared with 466, and other faculties as follows, with the succeeding figure representing last year's registration: Forestry, 7 (11); music, 9 (6); dentistry, 29 (21); social science, 40 (32); school of nursing, 11 (10).

The Students' Representative Council of Glasgow University has instituted a practical method of bringing Freshmen together. It is by means of a camp to be held at Balmaha on the banks of Loch Lomond.

The special features this year will include a visit from the Principal, a boat-race, a number of short talks by members of the staff, a treasure hunt, and finishing up the last day with a banquet.

Dr. William Guy (an honorary graduate of Philadelphia), the doyen of British dentistry and a prominent official in the F. D. I., has just been elected Vice-President of the British Dental Assn.

Mr. George Bernard Shaw, in the course of an address at the New Health Society Summer School at Malvern, described a visit which he paid to a Honolulu Children's Welfare Centre. "It happened," he said, "that the principal of this centre was a lady dentist, and she said that the condition of the children's teeth when she began there was quite appalling. But she had experimented again and again, and had hit on a sort of porridge, which I tasted, called pau. According to her the effect of it was perfectly magical. She claimed that not only did the children who were fed on it never have bad teeth, but all the children who had bad teeth before they were fed on it found their teeth improving when they had eaten it."

Dr. K. C. Campbell (83 Great Portland Street, London, W. I.), a worthy son of Canada, is the new secretary of the American Dental Society of Europe.

At the recent annual meeting of the British Dental Association, it was agreed by 77 votes to 33 to increase the annual subscription to £3 3/—.

The British House of Commons has approved of the additional Import Duties Order relating to artificial teeth. Dr. Burgin, Parliamentary Secretary to the Board of Trade, said there were about 30,000,000 artificial teeth used a year in this country, of which 10,000,000 were made at home, and 20,000,000 imported. The British industry, he added, was in a position to meet the whole of the requirements of modern dentistry and supply all United Kingdom users with teeth of home manufacture.

Mail Order For Teeth

Ready-made teeth, upper and lower plates, at \$5 a plate, sent to you by mail! But whether the plates work together, or, to use the language of the dentists, whether they articulate, is another matter.

This is the latest device for getting teeth by mail order as advertised by a Chicago concern, so I hear. You are sent the stuff to make a mould of your mouth and the plates are made accordingly, just as shoes are made from a diagram of your foot. The price is attractive, but, just as in the pudding, the proof is in the eating or in the bite of the teeth. A lady ordered a pair of these plates, following instructions as to making a mould of the mouth. But when the plates were placed in the mouth they refused to meet and there was a gap in front. Result—she had to have plates made for her by a local dentist. It is a case of paying your money and taking your "chance" not "choice," which in this instance is what is called "saying a mouthful."

CORRESPONDENCE

Ottawa, Aug. 15th, 1934.

Dr. T. C. Trigger,
St. Thomas, Ontario.

Dear Trigger:

Yours of July 28th received. Your query regarding copper amalgam noted. I remember the facts as you state them, but have no definite knowledge as to dates.

As chairman of the Historical Committee I am somewhat handicapped because the source of information is in the old volumes of the Dominion Dental Journal in the College library in Toronto, and that is far from Ottawa, and the Historical Committee has no fund out of which to enable one to go to Toronto and browse around a bit.

I am sure that the next time you are in Toronto if you get in touch with the librarian you will get your information in the older volumes of the D. D. J.

I am in the same position with regard to the beginnings of the Eastern Ontario Dental Association. The present minute book which I have examined does not go back to the inception of the association, although there is a very interesting paper by Beers on the early history of Dentistry in Quebec and Ontario. It no doubt appeared in the D. D. J. at the time.

The E. O. D. A. was founded in 1879. The present minutes go back to the 21st annual meeting held in Ottawa in June, 1900, where the paper "Sketch of Dentistry in Canada" by Dr. Geo. W. Beers was read by Dr. Geo. Hutcheson.

Sorry that I can be of so little

immediate help other than to indicate possible source of information.

Yours very truly,
MARK G. McELHINNEY.

504 Tegler Bl.,
Edmonton, Sept. 24, 1934.

To the Editor,
Dominion Dental Journal,
Toronto.

Dear Doctor:

May I suggest to you that an item to press for through say our Canadian Dental Association is the recognition of dental ills as suitable claims for compensation under sickness and accident policies in force in Canada. Hardly any of us are minus the experience of presenting claims for services rendered patients laid up from work and having them returned with the curt reminder that "dental work" is not included in the terms of the policy.

Maybe they are right in regards to operative and prosthetic restorations, but there is a fine distinction when it comes to severe Vincents, alveolar abscesses, etc.

Maybe it only requires the attention of our associations and a clear exposition of the severity of mouth conditions in relation to severe bodily health to get sympathetic consideration from companies operating in Canada.

Yours truly,
LESLIE McINTYRE.



Question:

“Doctor, what is a really **SAFE** dentifrice to use?”

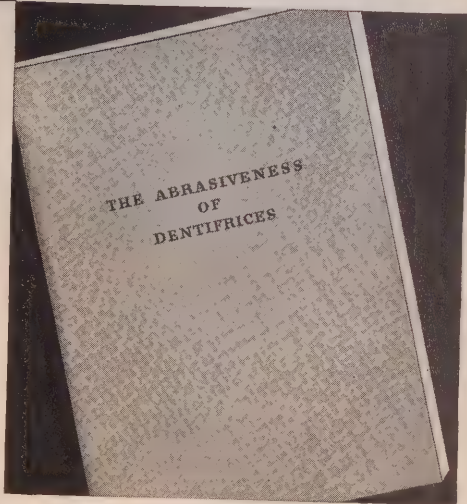
—and the reply you give must be definite, for it's respected.

Answer:

in this scientific bulletin . . .

with **PROOF** that Pepsodent is the

least abrasive of 15 leading tooth pastes and tooth powders.



HUNDREDS of times a year you are asked: “What is a safe dentifrice to use?” To convince you that you can answer “Pepsodent” and be *sure*, we suggest that you read every page of the scientific bulletin shown above. This bulletin reveals the relative abrasiveness of the leading tooth pastes and tooth powders. It is the complete published report of an extensive study, recently completed by the Research Laboratories of The Pepsodent Co. The researches definitely and conclusively reveal that Pepsodent is the least abrasive on copper plates. The data of comparative tests between Pepsodent and eighteen leading dentifrices . . . including tooth pastes and tooth powders . . . are recorded. If you have not received a copy of this bulletin, a post card request will bring you one.

THE PEPSODENT CO., TORONTO, ONTARIO

OBITUARY



MR. W. L. TRUESDELL

The death occurred on September 8th of Mr. Wilt Leverett Truesdell, president of the Columbus Dental Manufacturing Company.

Born in Busti, Chautauqua county, N. Y., Mr. Truesdell spent most of his active years in Columbia. He received his education at Ashtabula, Ohio, and started his business career as a Western Union messenger. His next step was turning out the street lights of Ashtabula at dawn each day, then he was for a short time cabin boy on a Great Lakes freighter.

In 1884 he again turned to telegraph business and joined the Postal Telegraph Co., becoming successively combination man, operator, chief operator, manager, assistant superintendent, and fin-

ally manager at St. Louis during the Exposition of 1904. That year he left to become associated with the Columbus Dental Manufacturing Co. at its founding. He was manager of that company until 1926, when he assumed the Presidency.

Mr. Truesdell was a member of the Scioto Country Club, Lancaster Country Club, the Athletic Club, Columbus Club, and was a thirty-second degree Mason. His death followed a six weeks' illness due to cerebral hemorrhage.

He leaves his wife, Mrs. Clara K. Truesdell, a brother, Carl Truesdell, and a nephew, Wilt R. Truesdell, of 375 West Fifth Avenue.

Dr. V. J. Levasseur Laid to Rest at St. Johns

St. Johns, Que., August 20.—People from all walks of life attended the funeral today of Dr. V. J. Levasseur, prominent local dentist, who died at the St. Johns Hospital last Thursday. The church service was held at the St. Johns Cathedral, and the requiem mass was celebrated by Mgr. J. E. Courso, assisted by Abbe L. Raymond and Abbe L. Brault, as deacon and sub-deacon respectively. The body was received at the church portals by Rev. Father Boisvert, curé of St. Gregoire parish.

The chief mourners were his son, Jacques Levasseur, and brothers-in-law, H. Papineau, Arthur Tournigny, Ernest Rainville and Donat Provencher.

The pallbearers were Dr. Alexis Bouthillier, M.L.A., Georges Savoy,

Yes Doctor

We know we're bragging

But more people have bought Colgate's Ribbon Dental Cream to date this year than ever before in the same period of time.

We like to think, Doctor, that people use Colgate's because of the honesty of its advertising—the efficacy of the product and because no wild boasts—no implications of dental cures are made in its behalf.

Colgate's is still being advertised and sold under the one and only claim it has ever made—"Colgate's can only clean teeth."



MADE IN CANADA

COLGATE'S

RIBBON DENTAL CREAM

C. A. Laberge, Dr. Georges Phenix, Dr. N. A. Sabourin, Dr. Oscar Laberge, Dr. Georges Phaneuf and W. Laurion.

Among those seated in the sanctuary were Abbe E. Lajeunesse, Abbe R. Boule, Abbe Corbiere, Abbe Hamelin, Rev. Fathers La-

rose and Primeau, Abbe Charette and Abbe Charbonneau.

Nearly 2,000 persons followed in the cortege after the church service. Burial took place at the local cemetery. The cortege was preceded by a group of Les Artisans Canadien Français.

CLASSIFIED ADVERTISEMENTS

BUSINESS OPPORTUNITY--

For men who know how to sell. We want to develop a staff of live, energetic men with selling experience to represent three leading Canadian publications. It is spare-time work we offer. No interference with your regular occupation. No investment required—we supply all materials required. Real good commission and bonus arrangement for producers. Write Box 21, care of Dominion Dental Journal, 73 Richmond W., Toronto.

GOOD OPENING for remunerative practice in small Eastern Ontario town. Commodious offices in centre of town available at \$15.00 per month and taxes. Situated on the Highway, and close to other Highways. Apply Box 115, Dominion Dental Journal, 73 Richmond St. W., Toronto.

WANTED—A graduate dentist wishing to become established to share office in Ontario city and take surplus work. Will also provide rent-free apartment for two years. Write care of Box 120, Dominion Dental Journal, 73 Richmond St. W., Toronto.

FOR SALE—Modern and well established dental practice and office equipment in fine residential town in the Annapolis Valley, Nova Scotia. Cheap for quick cash offer. Box 119, Dominion Dental Journal, 73 Richmond W., Toronto.

FOR RENT—Dental offices with or without adjoining apartment—old established stand—270 Roncesvalles Avenue, Toronto, corner Westminster. Box 117, Dominion Dental Journal, 73 Richmond W., Toronto.

DENTAL PRACTICE AND EQUIPMENT WANTED. Box 118, Dominion Dental Journal, 73 Richmond W., Toronto.

ORIGINAL CONTRIBUTIONS

The Ideal Amalgam Restoration *

*By Harold E. Tingley, D.M.D.,
Boston, Mass.*

WEBSTER defines the adjective "ideal" as meaning "conforming to a standard of perfection." While it is difficult to qualify perfection in anything, we should do so, I believe, when we allude to perfection in amalgam work. It is doubtful that any authority believes a state of perfection to exist in amalgam restorations. This lack of accomplishment is due mainly to the complexity of the multiple physical and chemical factors involved and to an indifferent technic.

Since its adoption in the field of dentistry, amalgam has been the subject of many empiricisms; which is one of the reasons that the scientific study of amalgam has progressed so slowly until comparatively recent years.

At the present time, the laboratory study of the physical and chemical properties of amalgam is, I believe, ahead of our study of the development of an accurate and a scientific technic.

Pond states that 75 per cent. of restorations are today made with amalgam. If this is true, amalgam is a material which deserves all the study that can be given it. It has been said many times, and I hesi-

tate to repeat it, that "amalgam is the most widely used and abused of filling materials." If this statement is true, and it undoubtedly is, the time has come when empiricism should be cast aside and amalgam restorations made according to the latest scientific knowledge on the subject.

Paffenbarger and Sweeney state:

The Research Commission has directed its research associates to purchase in the open market materials that are guaranteed by their makers to meet the various American Dental Association specifications and to test these materials for compliance with these specifications. Thus, by these check tests, the profession will be further protected against inferior products. Likewise, the manufacturer who is actually producing specification materials and has adequate testing facilities will also be protected against unfair trade practice.

I believe that every practitioner is in sympathy with the above-mentioned report. Such precautions are bound to be reflected in an improved product, and no stone should be left unturned to improve our dental materials. The last sentence of the last paragraph of this report seems to me the most pertinent: "It is felt that these safeguards will protect the dentist in

*Read at the Seventy-Fifth Annual Session of the American Dental Association in conjunction with the Chicago Centennial Dental Congress, Aug. 11, 1933.

the purchase of satisfactory materials. It is then his duty to employ them correctly."



Fig. 1.—Above, A, frail enamel, which is likely to fracture under stress. The enamel margin at B is much stronger. Below, shaded areas indicating probable enamel fractures resulting from placing margins in critical location; i.e., near tips of cusps.

The implication from the foregoing sentence is, I believe, a challenge to the dentist to exert his best efforts in the use of dental materials. In the last analysis, this means that the use of the materials should be based on scientific findings. One has only to refer to Ward and Scott's recent report to learn that even the use of a differently surfaced mortar and pestle will make a measurable difference in volumetric behavior of amalgam.

Knowledge of physics and chemistry is sufficiently complete at this time to assure us safe materials and safe technic. By safe, I mean materials and a technic which will give us more accurate clinical results than were ever before obtained. Credit and recognition should be given to all the investigators of amalgam, but especial appreciation should be accorded the men at the Bureau of Standards. The efforts of Souder, Taylor, Sweeney and Paffenbarger were unquestionably of outstanding merit; for their contributions definitely

improved the quality of dental alloys on the market today.

The recent work of Ward and

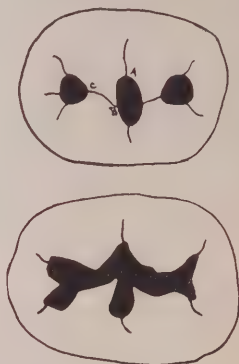


Fig. 2.—Above, A, B and C, points making adaptation and finishing a difficult task. Below, sharp irregular angles in outline form, which make adaptation and finishing difficult.

Scott deserves mention and recognition. The report recently made by them was another milestone in our progress toward ideal amalgam restorations. Harper should receive great credit for his contributions and untiring efforts in the field of amalgam. He has undoubtedly done more than any other investigator to improve the amalgam technic of dentists.

It is unquestionable that the higher grade alloys must be available for the dental profession. High silver alloys of favorable proportional contents are the only safe materials to use, since the best clinical results can be obtained only from high grade alloys of a known and favorable physical behavior. Volume changes alone vary sufficiently in alloys selected at random to make it necessary to choose a high-grade alloy in order to insure good results.

An accurate and painstaking technic is of little help if the basis of the technic is the employment of a poor alloy; yet, con-

versely, the use of a high-grade alloy combined with an inferior technic will not give satisfactory results either. The question at once arises as to whether the use of a good alloy or good technic is the

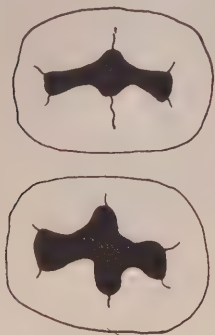


Fig. 3.—More orthodox and desirable types of outline form than that shown in Figure. 2.

more important. One cannot fairly make such a differentiation; for both are important, and without both, excellent results cannot be obtained.

It is apparent, therefore, that many failures with amalgam are traced by those responsible to the chemical and physical properties of the alloy when only a poor technic is responsible. Faults such as poor condensation, ill-shaped contours, cervical excesses and overhangs cannot be properly attributed to the use of a low-standard alloy. Broadly speaking, it would seem that the average dentist is far more interested in the selection of a proper alloy than in the utilization of an improved technic, and such an attitude should be subject to modification. Obviously, lack of care in the use of amalgam is due to carelessness, and is generally the result of a belief on the part of the dentist that he is dealing with an inferior filling material which it is not necessary for him to manipulate with precision. It is not the

purpose of this paper to champion amalgam over and above its value; yet it is only fair to state that amalgam deserves a high rating as a tooth-saving material.

Most practitioners agree that gold is the filling material par excellence; yet Pond states that he believes amalgam to be a better restorative material than inlays made of gold. Certain it is that

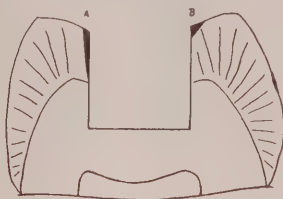


Fig. 4.—Comparison between amalgam bevel illustrated at A and bevel for gold illustrated at B. The amalgam bevel should be three-quarters to full length of the enamel wall, varying but slightly in its direction from the cavity wall.

thousands if not millions of teeth are saved yearly in this country by the use of amalgam. Amalgam has its faults—plenty of them—but if the material is understood and its physical properties observed, many of these deficiencies can be sufficiently controlled to give us very good results.

Some of the disadvantages which may be attributed to amalgam are: relatively low tensile and edge strength; a crystalline make-up, which defeats attempts to burnish it; expansion and shrinkage; a tendency to discolor in the mouth, and thermal conductivity. Spheroiding is not mentioned in the foregoing list because it is quite probable that this phenomenon should be properly included in the volume changing factors of expansion and shrinkage. Let us discuss briefly the deficiencies above related and attempt to point out the seriousness of each, taking them in the order of their importance. Shrinkage is without doubt the

most detrimental physical characteristic which amalgam possesses. It has the effect of pulling the restoration away from its cavity walls, thereby exposing such areas to bacteria and decay — not to mention the discoloration which results when these surfaces are exposed to the fluids of the mouth.

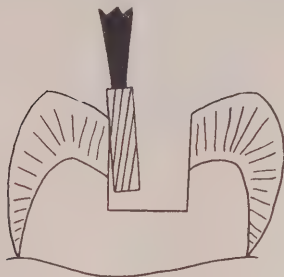


Fig. 5.—Use of spiral plane fissure bur No. 56 or 57 for finishing enamel wall.

Shrinkage also impairs the mechanical structure of the restoration by drawing the amalgam away from its supporting walls; but shrinkage can be controlled to a large extent by the selection of a high-silver-content alloy and by the complete removal of excess mercury, accomplished by thorough condensation.

The next most important physical disadvantage associated with amalgam is its apparent crystalline formation. This type of structure hinders us in the removal of the excess mercury owing to the evident temper which the amalgam exhibits when exposed to pressure during condensation of the filling. Such residual excess mercury will produce serious volume changes; which, in turn, will adversely affect the durability of the restoration.

The crystalline physical characteristic prevents the burnishing of the margins of the filling as is done when using gold. This, to a large

extent, precludes good adaptation to the cavity walls if an error has been made at the cavosurface angle in carving or preparing the cavity. This point illustrates definitely the precision required in the technic. The disadvantages of this crystalline makeup can be controlled by employment of the amalgam before

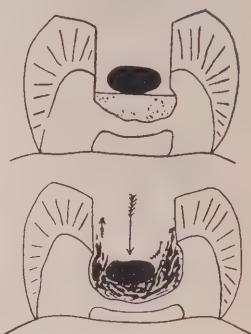


Fig. 6.—Above, hardened cement base with amalgam ready to adapt to cavity. There is a flat floor and clean walls. Below, amalgam in soft mass of cement showing irregular floor and inevitable result when pressure, as indicated by arrow, is applied.

the initial crystallization has started and by the use of suitable pressures at the proper times during condensation of the filling.

The low tensile and edge strengths are factors in the failure of restorations when beveling of the enamel walls of the prepared cavity necessitates the drawing out of the amalgam into thin edges. Such edges will, of course, fracture, imperfect margins resulting. This characteristic can be controlled to a large degree by proper treatment of the enamel wall.

Where tensile strength is needed for retentive purposes, a sufficient bulk should be given to the preparation to provide essential strength to the filling material at that point.

The discoloration of amalgam and, subsequently, of the tooth structure, which is indeed a ser-

ious fault, implies that its use should be confined mostly to the posterior teeth. Some years ago, G. V. Black pointed out that discoloration of the tooth structure resulting from the placing of amalgam occurs only where there are leaky margins. He advanced the theory

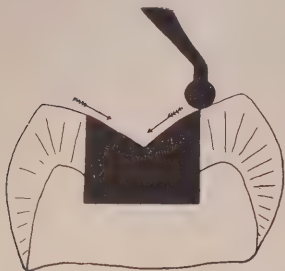


Fig. 7.—Carving direction with spoon or carving instrument, from tooth structure toward central part of restoration area.

that the metallic salts and hydrogen sulphide would penetrate the dentinal tubules only when moisture was present. Comparatively nothing has been brought out in recent years for or against this theory, which indicates that the control of this condition may be accomplished by adopting a technic that will insure impermeable margins. The discoloration resulting from the presence of unsupported enamel can best be controlled by its removal or by the use of a light colored cement lining. The discoloring tendency of amalgam is indeed unfortunate, and, accordingly, the use of this material should be confined to teeth and surfaces of teeth which are not exposed to view. The use of amalgam in the lingual pits of maxillary anterior teeth is dangerous in this respect, and for these cases no better material than gold can be found.

It is apparent that expansion is not an unfavorable factor except in poorly balanced alloys; i.e., alloys

which have an unusually high silver content, and there are none of these on the market. Prolonged expansion up to a period of a ten-day ultimate expansion is desirable. If there is need of controlling expansion, it should be done by selecting an alloy which is not above 70 per cent. in silver content.

Thermal conductivity is undesirable in any filling material, since lasting injury to the pulp may result. The thermal conductivity of amalgam is, I believe, sufficiently below that of gold to be more desirable material in this respect. Thermal conductivity should always be considered when impending irritation to the pulp is anticipated. Cavity lining and cement are probably the best means of insulation in these cases.

In addition to the above-mentioned physical and chemical shortcomings of amalgam, considerable attention has been given in the dental literature to flow, spheroiding and mercurial poisoning. In a discussion of alloys of high silver content, flow ceases to be a factor to any dangerous extent. The presence of, let us say, 68 per cent. silver, 26 per cent. tin, 5 per cent. copper, and 1 per cent. zinc raises the crushing strength sufficiently to eliminate flow from any great practical consideration. Much has been written about that unusual and inexplicable phenomenon, spheroiding. The theory has been advanced that any alloy containing mercury tends to become spheroidal because mercury in its separate and uncombined state has that tendency. The amount of uncombined mercury in an amalgam restoration would, of course, vary with the technic of manipulation. It is hard to believe that a sufficient amount of free mercury exists in a well-condensed filling to allow this action to take place. This statement is made guardedly, as there is no proof for it at hand; but it would

seem that, for our answer, we should look to the volume changes which might result from extreme temperature variations in the mouth. For example, there is a considerable temperature spread between a cup of hot coffee and a dish of sherbet, and the relative volume coefficient value of amalgam is high for the metals. Taylor states that measuring by thermocouple the temperature of an amalgam mix triturated in a mechanical mixer showed a rise in temperature of from 20 to 25 degrees Centigrade, and the amalgam did not behave well afterwards. If this is true, is it not a logical deduction that greater temperature variations, such as are found in the mouth, will inevitably cause much volume change in amalgam restorations?

At the present time in this country, there seems to be no general belief that mercurial poisoning may result from the presence of silver amalgams, although Germany has many adherents to this theory. Saliva in which silver amalgam was immersed for six weeks showed no mercury and only slight traces of tin. As the salts of tin are not particularly harmful, if these experiments were exact, mercurial poisoning may be dismissed from our minds. As regards this point, a number of German investigators have shown that copper amalgam gives off mercury in proportionally large quantities. There also have been several cases reported of severe poisoning, but it must be remembered in this connection that copper amalgam is much less stable than silver, especially in the fluids of the mouth. Copper amalgam is well on the road to being discarded in this country, although abroad it is still in general use. It was heralded in the past on its supposed germicidal merits and became touted as the panacea for all ills in children's teeth. True, it

may have had germicidal merits, but its instability in the fluids of the mouth render it generally unfit for use.

Before proceeding with an advocated technic, let us consider briefly the makeup of an alloy and also the phenomenon of what is called the setting of the amalgam. Most highest alloys have an element content which compares closely with the following formula: silver 68 per cent., tin 26 per cent., copper 5 per cent. and zinc 1 per cent. Every alloy should have a high silver content; which promotes expansion, thereby controlling excessive shrinkage. The use of silver also increases edge strength, controls flow and hastens setting. The tin contracts and its employment decreases edge strength, increases flow, retards setting and adds plasticity. The use of copper increases edge strength, at 5 per cent. or less, hastens setting and decreases flow and there is little change in volume. The zinc content increases edge strength, lessens flow, improves color and adds smoothness to the amalgam. Silver and copper unite with mercury with greater difficulty than does tin or zinc, and tin has an exceptional affinity for mercury; which makes it a dangerous factor in this respect. A high silver alloy will not work so smoothly as one containing a large amount of tin, but shrinkage can be controlled only by using a high silver content. Practitioners should, therefore, avoid excessively smooth amalgams as these usually shrink greatly on account of the high content of tin.

The trituration of an amalgam in the mortar and the subsequent mulling in the hand are accompanied by shrinkage which is the result of the fact that alloy filings go into solution with the mercury. This, which is called the primary shrinkage, is followed by a primary expansion which is the result of the

crystallization marked at the start by a slight crepitus in the mass. The duration of this primary expansion period is approximately twenty-four hours, after which the residual excess mercury diffuses through the amalgam and the remaining particles of alloy go into solution, this causing a secondary shrinkage. The subsequent crystallization, which is known as secondary expansion, is desired at the end of approximately ten days. If this sequence of events occurs as claimed, any margin that is finished before the expiration of that time will fail.

There is a period which lasts from the completion of the mixing until about ten minutes have elapsed, during which time the amalgam is more easily adapted to the cavity walls. This period, which is called the period of adaptable plasticity, varies in length with the type of alloy employed, being of shorter duration in high-silver-content amalgams. There should be relatively little crepitus in the amalgam during the period of adaptable plasticity. Immediately following this, there is a period of lessened plasticity, which continues until the amalgam ceases to be workable. This is called the period of workable plasticity. During this period, the amalgam may still be used, but good adaptation to the cavity walls will not be effected and difficulty will be experienced in removing excess mercury. The foregoing facts are practical points, easily demonstrable by experimentation. The greatest success is obtained only by exercising regard for these periods in the setting of the amalgam.

Cavity preparation is an important part of amalgam technic. Restorations usually fail if preceded by poor cavity preparations. There is no step in amalgam technic that is more important. Fundamental principles of cavity prepara-

tion must be followed, and such principles should evolve from a complete familiarity with the anatomy, histology and pathology of the tooth.

There are, briefly, two types of dental caries: the pit and fissure type and the smooth surface type. The former attacks the tooth through structural defects; the latter, by the formation of plaques on the smooth surface of the enamel within the vulnerable or especially susceptible areas. In the first type, the limits of the caries are not usually known until the cavity is partially prepared and, obviously, two cavities of the first type in the same tooth should not be filled separately until it has been definitely established that they are not intercommunicating. In the pit and fissure type, caries seldom spreads on the surface of the tooth, and this fact makes it unnecessary to "extend for prevention" except to include pits, fissures and deep grooves. In the smooth surface type, the operator should not, of course, limit the extension of the cavity outline until all carious and susceptible areas have been included. In this respect, special attention should be given to cavities on gingival third of the tooth, as decalcified enamel will not be detected unless the surface of the tooth is dry. Cavities of this type present a problem in mouths wherein caries susceptibility is high. Generally speaking, their outline forms should be proportionately extensive.

The direction of the enamel rods modifies the treatment of the enamel and the directional placement of the cavity walls. The rods radiate from the pulp, converge in approaching grooves and change direction acutely at cusps and ridges. Accordingly, cavity enamel walls are stronger when placed near the grooves.

Pit and fissure cavities should be

extended to include all caries, pits, fissures and deep grooves, as it is almost impossible to finish properly the margin of a restoration which crosses a deep groove. Marginal ridges should not be encroached on or undermined with inverted cone burs. There should be no sharp angles in the outline form and the floors should be flat; in a parallel plane to the surface of the tooth, and always well seated in the dentin. The walls should be parallel and at right angles to the floor, with the exception of the slight retentive form made at the floor with an inverted cone bur and sharp hand instruments.

The enamel margins should be beveled from three-quarters to the full length of the enamel rods, flaring but little from the direction of the wall. A plain spiral fissure bur of moderate size is, I believe, the best instrument for this purpose.

The occlusal dovetail, the chief source of retention in compound cavities in the posterior teeth, should follow the groove toward the buccal aspect. Especially is this true in the maxillary teeth. Constricted portions of the cavity should be made sufficiently wide and deep to compensate for the low tensile strength of amalgam. Buccal and lingual walls should be extended to self-cleansing areas and, if possible, should be kept within the angles of the tooth. Gingivally, the extension for prevention is made to a point under the normal free gingival margin. The gingival wall should be at right angles with the axial wall, as well as parallel to the floor of the dovetail.

Amalgam requires somewhat more retention than malleted gold; and owing to this fact, substantial retentive points are placed in the proximal portion. The buccal and lingual enamel walls are finished by planing with sharp chisels, and

at the gingival enamel wall, Black's gingival margin trimmers are used.

Caries frequently is extensive and, in such cases, an intermediate filling material is indicated for the protection of the pulp. Zinc oxyphosphate cement seems best for this purpose. Guttapercha should not be used, because of its tremendous coefficient of expansion; i.e., 198, as compared with a tooth substance value of 8 and an amalgam value of 25, to say nothing of a mercury value of 60. Little is known of the volumetric change of zinc-oxide and eugenol and, as an intermediate, it should probably be confined to simple cavities.

Pond states that he prefers to cement all his amalgam restorations with a soft mix of cement. I believe that it is better to allow the cement base to harden before attempting to place the amalgam, for the following reasons: 1. Cement is usually indicated as an intermediate filling when insulation from thermal shock and protection from pressure of condensation is needed. A thicker layer of cement should give greater protection from both of these factors. 2. One of the objects of condensation is to eliminate as much excess mercury as possible, and it seems more feasible to have a flat floor against which orderly condensation may be directed. It is extremely difficult to express mercury from an amalgam filling in a cavity which has a concave floor. 3. There is always the danger of touching the matrix band or cavity margins with the soft cement.

Matrices are necessary in compound cavities and for general use "Ivory" 1, 4 and 8 are recommended. "Ivory" 1 and 4 may be used on mesioocclusal and disto-occlusal cavities, while 8 is quite suitable in mesioocclusodistal and larger restorations. The separation of the teeth and the adaptation of the 1 and 8 matrices at the gingival aspect is

obtained by using a wooden wedge for this purpose, a round toothpick properly trimmed being suitable in the average case. It usually is best to trim the matrix band to suit the case at hand and the bands may be burnished to obtain the desired contour, proximal or otherwise. The tension on the matrix band should be released slightly when the height of the filling reaches the contact point. This helps in obtaining the proper contact. The matrix band should be removed as soon as the condensation of the filling is complete as the friability of the amalgam increases very rapidly as crystallization progresses. The matrix should be rotated toward the gingival aspect and from buccal to lingual, but never toward the occlusal. It is best to cut the matrix band as near the contact point as possible before attempting its removal, and pressure should be kept on the filling during this procedure to prevent the displacement of a portion of the filling material.

In the mixing of the amalgam, known volumes, measured by weight, of mercury and alloy filings are placed in the mortar. The proportion of the mercury to the alloy is not especially important except that it should be constant. The time of mix is exceedingly important, as prolonged trituration and vigorous grinding promote shrinkage. The mercury content should be reduced slightly when multiple portions are used, and this reduction does away with any excess of mercury in the mix. It is best to use the proportions recommended by the alloy manufacturers. The proportions of eight parts mercury to five parts alloy are suitable for most high grade alloys. Crepitus should not be present in the mix, yet the mixture should not be excessively thin. A good consistency test may be made by dropping the spherical mass of the mix onto a flat surface from a height

of 6 or 8 inches; after which the mass should be flattened out approximately one-half its diameter. The alloy and mercury should be lightly triturated in the mortar for two minutes and mullied in the hand for one minute. This procedure should be timed and the mixing should not exceed three minutes.

Condensation is accomplished by placing in the cavity the first portion of the amalgam from which no mercury has been removed and carefully tamping it to place. Tamping adapts the amalgam to the walls, as well as sharp angles, and this process should not be confused with forceful condensation. A small amount of mercury is then removed from the second portion, which is placed in the cavity. At this point, condensation is started. Orderly packing of the amalgam is accomplished by starting in the center of the cavity and packing toward the walls, overlapping the previously condensed area with each thrust of the instrument, and continually driving the mercury in one direction. A strong force of from nine to sixteen points pressure should be applied. This method carries the mercury toward the walls, where it is finally expelled by the filling instrument. The above-described process is repeated, expelling more and more mercury from the amalgam before it is inserted in the cavity. Still more mercury is expelled in the process of condensation. The last portion of the amalgam used should be very dry and packed into the cavity with great force of the hand instrument, if not malleted. At the completion of the condensation, a substantial excess of amalgam should always exist for the convenience of carving. The whole purpose of thorough condensation is to effect proper adaptation to the cavity and to expel as much mercury as possible. The behavior of the finished filling is largely dependent on the

thoroughness of this process of eliminating excess mercury. Volume, crushing strength, marginal friability, all will be affected if the excess mercury is not removed.

The function of amalgam restorations is to restore anatomically lost tooth structure, in order to preserve the health of and restore function to the teeth and their investing tissues. By the same token, anatomic form must be reproduced in order to restore the teeth to their original use and function. Proper contact points should be made with the approximating teeth and should be located well toward the buccal third of the tooth. If the contact point is not normally present, it is best to improve on nature by developing a contact, when the distance is not too great. Such a contact point should be convex and not a broad surface, in order to preclude decay of the adjacent tooth. The operator will, by obtaining a contact point, prevent the impaction of food and stabilize the tooth as to its normal position and mobility.

Marginal ridges are restored to an equivalent height of the marginal ridge of the adjacent tooth as this will further prevent the wedging of the food into the interproximal space. Buccal and lingual embrasures are made to resemble wide open V-shaped spaces and should not be reduced to the narrow places which are often caused by too great convexity of either the buccal or the lingual aspects of the approximal surface.

The cusps should be reproduced as to their original form, the tips being placed well toward the center of the tooth. Especially should this be done in the cases of buccal cusps of the lower and lingual cusps of the upper molars. The principal grooves should be reproduced, particularly grooves separating cusps, as well as the triangular grooves which are present in practically all

mesial and distal fossae of the posterior teeth. Spillways may be reproduced when the approximal surfaces are broad. Interproximal spaces should be preserved to allow the interdental papilla to take its natural position. On the whole, anatomic form must be understood before it can be reproduced, and the occasional carving of a tooth serves to keep the practitioner interested in the production of good tooth form. The study of dental anatomy may be elementary but is certainly fundamental.

If condensation has been accomplished, carving may be started at once. The carving instrument should always be directed from the tooth structure to the amalgam, and burnishing should not be attempted, reports to the contrary notwithstanding. Excessively deep grooves should be avoided and marginal ridges should be made the lowest points on the surface of the tooth, with the exception of pits, fissures and grooves.

The finishing and polishing should not be attempted for twenty-four hours, or, better still, ten days. The technic of finishing consists of trimming the occlusal margins with finishing burs until they are flush with the surface of the enamel. This operation should be repeatedly checked with a sharp explorer and there should be no catches. On the proximal aspect, the buccal and the lingual margins are trimmed with sandpaper disks, then the gingival margin is surfaced with fine sandpaper strips. The entire proximal surface is finished with fine cuttlefish strips and the occlusal with midget disks. At this point, all scratches will have been removed and the occlusal surface is further finished with rubber cups, moist pumice being used as an abrasive. This is followed by moist whiting, and the polishing is done by using nearly dry tin oxide powder. The same

procedure is followed for the proximal, linen strips carrying the polishing material. If each step is followed in the proper sequence, a restoration of high luster and flawless margins will result.

CONCLUSIONS

1. It is essential to use a high test alloy with an adequate silver content.

2. A good standardized technic is as important as the selection of the alloy.

3. Cavity preparations should be carefully made.

4. All excess mercury possible must be removed to insure nominal volume changes.

5. Amalgam has such structural composition and physical characteristics that it becomes necessary for the practitioner to exercise great care in its use to obtain good results in the restoration of the teeth.

6. Great good would result from a conference of the leaders in amalgam work in the profession, and such a conference would be of value in the development and improvement of amalgam technic.

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Dental Diagnosis

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Read before the Kingston Dental
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In the diagnosis of diseases about the jaws, a primary consideration must be kept in mind, viz., is the pathological condition of local or general origin? Are there constitutional symptoms present, from the oral disease or only associated with it. The discovery of some pathological state of the gum margins or the alveolar process of the jaw is not sufficient evidence in itself to conclude that the patient's health is suffering therefrom. It must be admitted that bodily ill-health may have its origin in oral disease, but care must be exercised in determining which, if any, of the symptoms have their origin in a disease of the mouth.

The majority of remote affections which proceed from diseases of the jaws and mouth belong to the category of chronic septic infections which are commonly of streptococcal invasion which are frequently found in infections of the sinuses of the face and head, the tonsil, the gall bladder, the intestines and the genito-urinal tract. Oral sepsis may exist coincidentally with any of these diseases and may act as a predisposing and aggravating or exciting cause. It must be borne in mind that many general diseases have distinct manifestations in the mouth.

Unfortunately for dentistry and those seeking the services of dentists, there has not yet been

developed any acceptable systematic procedure in making a dental diagnosis. Dentists have in the past been able to determine by observation all that was needed for treatment. If a tooth pained, it could be removed, and if a cavity occurred in a tooth, it could be filled, and if a space occurred from the loss of one or more teeth, the space could be occupied by an artificial appliance. But since the advent of a more careful study of the prevention of dental diseases and the relationship existing between local infections and general diseases, it become more important to determine what teeth are diseased and what remote affections may have their origin in the mouth and, on the other hand, what affections in the mouth may have their origin elsewhere.

The dentist has two distinct problems before him in making a diagnosis. The local findings and the general manifestations of disease. These require different methods of approach, treatment and record. There is no very distinct advantage in having a general history and medical record of a patient who requires an amalgam filling or a denture. What such an examination would reveal would rarely change the method of treatment. If it could be shown that dental caries and diseases of the peridental membrane were systematic in origin and might in such

case be amenable to general treatment, then a general history would be desirable in all cases. On the other hand, if a patient is suffering from some general disease then a general medical examination must be made. The extent of the examination and the accuracy of the record of the findings should be determined by the necessities in each case.

Patients who require a complete medical examination should have a complete dental examination as well. Such patients may first consult the dentist or the physician, but, in any case, the dentist must report his findings to the physician and the physician must report his findings to the dentist, or better still, after each has made his examination there might be a consultation in the presence of the patient. It is generally unwise for a dentist to give a patient instructions to consult a physician about his general health, or for a physician to give him instruction to consult a dentist, because most people who carry messages fail to give a correct impression of what is wanted. Too often both physicians and dentists are inclined to give the other instructions about their own affairs. They over-reach themselves. The patient should carry with him a note explaining what he suffers from and what the dentist should examine for. And, on the other hand, the patient should take with him from the dentist what was suspected and what he especially wanted examined into. A telephone communication between the physician and dentist is often of distinct advantage to the patient. In the interests of the patient the physician must know enough about the mouth and teeth to say whether they are in normal health or not, and the dentist must know enough about general diseases that may have their origin in the mouth to recognize the need for

sending them for careful examination. When dentists begin to play at medicine and physicians begin to play at dentistry, patients suffer.

Before touching on the details of making a dental examination, permit me to speak of a few generalities arrived at after some years of clinical experience and practise. First of all, the consultant must get a clear idea from the patient, his guardian or friends, of the reason for the visit. Why has he consulted the dentist or physician? What does he want and what does he expect? This is the beginning, the middle and the end, never to be forgotten. Often the consultant forgets this, but the patient never does. How often a patient consults a dentist to have a filling inserted in a front tooth and the dentist thinks he has persuaded him it is more important to have a posterior tooth attended first and dismisses him to have the work done another day, but he never comes back. I have heard splendid advice given to deaf ears. Every physician has given good advice, but it is not always heeded because it was too far beyond the conception of the patient. One should begin where the patient is and lead him as rapidly as he will go to where one wants him.

There are two general methods of weighing evidence in making a diagnosis. One is to listen to all the history and directly come to a conclusion, and the other is to think of all the diseases it might possibly be and then arrive at the most likely one by a process of exclusion, afterwards definitely substantiating it.

Generally speaking, it is well to let a patient tell his story, which will help to throw some light on his mental processes as well as his complaint. At a certain point a few pertinent questions may clear away some ambiguity and serve to give direction to the patient's story. All

the while, very acute observations are being made as to the patient's posture, muscular movements and actions of the eyes, mouth and hands. The consultant is to think broadly of the significance of each part of the story, avoiding any positive conclusions until such objective symptoms are made out that give a lead to a few questions. Questions which lead to an answer of yes or no indicate a direction of possibly discovery of the diagnosis.

Many patients are often quite as keen as the consultant in matters of attention, logic and deduction, so it becomes important to avoid asking the same question more than once, and especially not to ask the patient's name or address two or three times. Blunt and embarrassing questions, or questions the answers to which are obvious, often put the patient's mind in opposition. Instead of gaining in his confidence by divining what he alone thought he knew, the consultant loses by asking aimless irrelevant and stupid questions. Questions which indicate that the consultant can foretell what the patient's symptoms were, have a wonderful effect on his mind. When a confidential relationship has been established, there is less likelihood of the patient withholding information that is sometimes essential to a diagnosis. If a truthful answer is not forthcoming from a patient, it is far better not to have asked the question. "Lead us not into temptation."

It is often difficult to determine why some patients consult a physician or dentist. They come with a diagnosis of their own and a full set of symptoms to corroborate their diagnosis. Before the consultation is over, the consultant is subjected to a line of questioning and suggestion of treatment which is embarrassing. No good ever comes to such patients because they really want to make their own

diagnosis, prescribe their own treatment, and get the physician's concurrence. The consultant must direct the consultation and control the treatment or have nothing to do with the case. Any other course leads nowhere except to humiliation and disappointment. Such patients have the consultation "craze, doctoritis or hospitalitis," if you please.

Sometimes patients will go the rounds to find if someone will help them in their belief that they have been maltreated. The specialist has much of this to contend with, so he must be on guard at all times, to say little about former treatments and show interest only in present complaints.

The experienced diagnostician is exceedingly cautious in expressing views or giving his opinions, or predictions. Experience has taught him that things are not always as they seem at first sight. The less the untrained mind knows about a subject, the more positive it is in its opinions. Only the youthful and the inexperienced are really positive about anything, e.g.: over ten years ago a rather youthful consultant made a positive diagnosis of carcinoma of the Antrum of Kighmore. The patient still lives without any signs of the disease today. It was heartless to tell such a patient that he had a cancer, if it were true, and still worse to have him worried for months when it was not true. It should be the consultant's business to allay suspicion and promote happiness among his patients.

As previously indicated, it is the essayist's opinion that a medical examination is not necessary for ordinary dental operations. In the great majority of cases a dental examination is all that is necessary, as usually in consulting the physician, a medical examination fills every requirement. But, of course, there are a number con-

sulting both dentists and physicians who need both examinations or a complete examination.

A routine dental examination involves: Name, age, sex, family, and personal dental history, present complaint or requirements.

Filling Out a Dental Chart Showing Operations Required

Equipment for Routine Dental Examination — Chair, cabinet, bracket table, sterilizer, wet and dry, compressed air, hand mirror, faradic current or electric pulp tester, electric mouth lamp, transillumination, X-ray machine, hot and cold water, ice or ethyl chloride, gutta percha cone, percussion instrument.

Instruments — Mouth mirror, tongue depressor, explorers, probes for following sinuses, water syringe, floss silk, separator, gas flame.

Examination of the Patient — General impressions of the patient, age, sex, general intelligence, occupation, personal care and general care of health.

Mouth — Deformities, traumas, abnormalities, size, elasticity of the tissues, general physiological or pathological state.

Mucous Membrane — General color, uniformity, reactions to irritants, swellings, growths, foreign bodies, sinuses.

Saliva — Viscid, simped, abundant, scanty.

Teeth — General appearance of color, size, form, number present, number lost, non erupted or suppressed, irregularities, breathing, care of teeth, power of mastication, occlusion, amount of dentistry done and the success of it, fillings, crowns, bridges, dentures, abrasions, erosions, attrition.

Cavities of Decay — Have some uniform plan.

1. All surfaces of each tooth

beginning at the upper right third molar.

2. Same surfaces of each tooth beginning at the upper right third molar for each surface.

Note size, color, location of cavities, vitality or non-vitality of dental pulps.

Peridontal Tissues — Loose or tight teeth, sore and inflamed gingivæ or interstitial inflammation, swellings over apical region, sinuses.

Local Irritants — Deposits, fillings, crowns, bridges, dentures, food wedging, tooth picks, tooth brushes, orthodontia bands, drugs.

General Irritants — Pregnancy, syphilis, diabetes, Bright's disease, diet, trench mouth, arsenic lead, potassium iodide, phosphorous, gonorrhea.

It is the combined examination and diagnosis which must be made by collaboration and consultation between the dentist and the physician that we wish to present just now, where the work of the two professions joins hands in the patient's interest. Too often in the past the dentist didn't know that the diseases he was dealing with from day to day might be the cause of grave systemic affections, and the physicians didn't know that the mouth and teeth were the seat of strepto-coccal and other infections. When the two professions came together to study focal infections, there was a marked change in both medical and dental practice. The history of the change of methods of practice is interesting. Dentists knew for years that infections of the teeth influenced the general health in many cases, the medical profession was slow to accept, but when Hunter made his notable observations public, both professions vied with each other in recommending the extraction of teeth until it has become a professional disgrace. Almost every

disease from alopecia to housemaid's knee has been attributed to bad teeth. Teeth should not be removed on suspicion only; they should be known to be the cause of some malady before they are removed. The extraction of teeth on suspicion should be a thing of the past.

Modern methods of diagnosis rather discount the methods of the past. The art of taking a complete and revelant history, and making accurate observations have not been developed in recent years because of the application of so many mechanical devices for helping in making a diagnosis. It is too often forgotten that it takes brains in the final analysis to interpret the findings of diagnostic appliances. By the history alone many dental complaints can be diagnosed. Inspection, palpitation and percussion all add their quota of facts. The dental diagnostician will look for deformities, traumatisms, infections of the pulp, the periodontal membrane, the bones of the jaws, and the soft tissues of the mouth.

Following the taking of the dental history, and sometimes accompanying it is made an inspection of the mouth and teeth. By palpitation with the ball of the index finger, the regularity or otherwise of the foundational bony structure can be made out. Heavy pressure over diseased apices will often elicit expressions of pain. A milking pressure from apex to gingivae, especially between the teeth, will express pus or blood, the quantity of which will give a rather definite notion of the depth of the pockets around the tooth root. Finger pressure in a direct line with the long axes of the tooth which causes pain, indicates apical disturbance, while pressure laterally indicates disturbance on the opposite side of the tooth, e.g., if pressure on the buccal side of an

upper molar causes pain, it is an indication of irrelation of the lingual root. Percussion of the teeth is done for two reasons: first, to elicit pain from the shock of the blow to the tooth, or, to determine if the note sounded by the blow is dull or ringing in character. If the note is dull, the tooth is diseased; if ringing, it is normal. The writer's experience is that blows upon a sore tooth which are heavy enough to produce such sounds are too heavy for the patient's comfort.

The dentist in his regular practise has to deal with diseases and affections of the hard structures of the teeth, the dental pulp, the periodontal membrane, its contiguous tissues, the soft tissues of the mouth, and the remote or focal infections of dental origin, as well as affections of systemic origin, having local mouth manifestations. None of these can be separated from the general functions of the body, nor can any marked derangement of one or more of them exist without influencing, in some manner, all others. Hence what sometimes seems to be a simple local affection is in reality having marked general or systemic manifestations. For this reason physicians send patients to dentists to find out if there is anything amiss in the mouth which might be the cause of the systemic or contiguous affection. The most common conditions suspected to be of tooth origin are enlarged glands about the neck. Acute inflammatory swellings about the jaws and face, marked eye symptoms, epileptiform seizures, chorea, certain mental disturbances, rheumatism, anæmias, hypertention, heart affections, alimentary infections, cancer, neuralgias. These and all other disturbances of dental origin can be classified into direct nerve irritations and acute and chronic infections.

Direct nerve irritations are exemplified in traumatisms of the nerves of the teeth and infectious irritations. These are chiefly found in vital pulps and impacted teeth.

The other group are found at the root ends of teeth whose pulps have died and become infected. These infections are practically always streptococcal and the source of systemic disease. The local gingival infections are less likely to cause systemic disease and yet Hunter believes pernicious anæmia comes from an unclean mouth.

There is a general belief that teeth with vital pulps cannot be the origin of infections. Based upon this view it becomes of prime importance to determine whether a pulp is alive or dead. To the inexperienced this seems to be a simple routine, and yet in a few cases the symptoms are very perplexing. There is such a wide range of sensations or lack of sensations within the normal, that many of the apparatuses for testing pulps do not give constant results.

The condition of the pulp may be determined by:

1. Family history.
2. Personal history.
3. Dental history—shock, blows, pains, swellings, sinuses, operation.
4. Age and sex.
5. Pain. When it occurs, duration, character of location, subconscious.

6. Color.

7. Reaction to thermal changes.

8. Number and size of fillings. Crowns.

9. Reaction to electric current.

10. Sensations to cutting dentine.

11. The presence of a root canal filling as determined by an X-ray picture.

The condition of the periodontal may be determined by:

1. Family history.
 2. Personal history.
 3. Dental history.
 4. Age and sex.
 5. Vitality or non-vitality of the pulp.
 6. Power of mastication.
 7. Color of the teeth.
 8. Reaction of the tissues to injury.
 9. Malocclusion or normal.
 10. Length of time pulp is dead.
 11. At what age the pulp died.
 12. If the tooth has been the seat of acute inflammatory attacks.
 13. The state of the overlying soft tissues.
 14. Inflammatory enlargements of bone over root apices.
 15. Amount of periodontal attachment remaining.
 16. State of the tissues as revealed by X-ray photographs.
-

Report of Meetings of the Board of Directors

Royal College of Dental Surgeons
of Ontario, 1933-1934

During the year the Board held four meetings: October 23rd, 24th, and 25th, 1933; December 5th, 1933; April 24th, 1934; May 29th, 30th, 31st, and June 1st, 1934.

All the members were present at each meeting and the following is a condensed report of the business transacted:

SECRETARY'S REPORT

Gentlemen: Your Secretary presents, herewith, his report for 1933-34.

Minutes—Several circumstances conspired to delay the mailing of the report for 1932-33 until August, when a copy was mailed to each Licentiate in Ontario and by request to a few in other localities.

Application for License—Applications for the L.D.S. have been received from 28 of the 35 in attendance in the fifth year of the Faculty of Dentistry of the University of Toronto.

Dominion Dental Council—One Dominion Dental Council certificate has been registered during the year by Dr. J. W. M. Lawrence of Nova Scotia.

The holders of 22 D.D.C. certificates have registered in Ontario, of whom 13 are now practising in the Province, and two have died.

Changes in the Register—On April 30th, 1934, there were 3,539 names on the register, 27 having been added since April 30, 1933.

There have been transferred

from the Active Register to the inactive list, 87; of these, 13 have died, 9 have retired from practice in Ontario, 2 have moved to the United States, 1 to Saskatchewan, 1 to British Columbia, 1 to Quebec, 56 whose fees are not paid, and 4 whose addresses are unknown.

72 have been transferred from the inactive to the Active Register; 64 have renewed practice or paid arrears of fees—2 from Manitoba, 1 from Saskatchewan, 5 from the United States.

Nurses' Graduation—The committee in charge has arranged that the graduation function of the Nurses' Class be held on Tuesday evening, June 5, 1934, in the Arts and Letters Club. Judge R. S. Hosking has kindly consented to address the class, and Rev. R. McCleary will deliver the invocation.

Nurses' Indentures—In 1928, the Board provided that a graduate of the Nurses' Class should complete two months' indentureship in an office before receiving her diploma and pin. For several reasons the Faculty consider it would be wise to rescind this, so she might receive her diploma and pin at the graduation exercises. The Dean will discuss this with the Board.

Signs—As suggested at the last Annual Meeting, and at a Special Meeting, your Secretary visited a few counties in Western Ontario in June last, the Eastern counties in July, and the extreme Western

counties in April. In all, 540 offices were visited in 123 localities. In 113 instances the signs did not conform to the regulations. All those visited in June and July, whose signs were not in accordance with the regulations, have signified their compliance. During the April visits, about 25 were found to be contrary to the rules. Of these, only two or three made any objection to complying. A number of visits were made in Toronto and the signs here are gradually being brought into harmony with the regulations.

Fifty Years in Practice

As in former years, complimentary registration for the year was sent to those who had been in practice fifty years or more. These were: 1884, F. A. Denne, Stayner; 1884, G. L. Ball, Toronto; 1884, F. Kilmer, St. Catharines; 1884, A. A. Smith, Cornwall; 1883, F. J. Stowe, Toronto; 1881, H. Weller, Welland; 1871, S. Woolverton, London; 1882, O. H. Ziegler, Toronto; 1875, I. L. Nicholls, Chatham; 1876, J. Pentland, Peterboro; 1877, N. A. Gumaer, Kincardine; 1879, E. Hart, Brantford; 1882, D. T. Baxter, Hamilton; 1882, C. F. Knight, Hamilton.

Drs. G. L. Ball and N. A. Gumaer have since passed on.

Licentiatees Who Have Died During the Year

In practice in Ontario: 1877, N. A. Gumaer, Kincardine, March 17, 1934; 1884, G. L. Ball, Toronto, January 14, 1934; 1885, J. Frank Adams, Toronto, July 20, 1933; 1898, J. A. Lochheed, Hamilton, January 28, 1934; 1900, W. J. Bentley, Sarnia, March 25, 1934; 1900, R. D. Jarvis, London, October 15, 1933; 1904, E. F. Willard, Toronto, September 24, 1933; 1906, F. L. Heath, Georgetown, August 14, 1933; 1912, A. S. Thomson, Toronto, September 2, 1933; 1913, W. E. Morgan, North Bay, April 6, 1934;

1918, L. T. Veitch, Toronto, October 28, 1933; 1920, L. A. Johnson, Toronto, February 13, 1934; 1921, R. B. Adams, Toronto, July 12, 1933.

Out of practice in Ontario: 1869, Nathaniel Pearson, Aurora, June 9, 1933; 1878, Daniel McPhee, Arnprior, May 15, 1933; 1879, C. S. Fitzsimmons, St. Thomas, October 9, 1933; 1882, W. J. Fear, Aylmer, January 5, 1934; 1892, S. A. Aykroyd, Toronto, December 1, 1933; 1900, A. E. Rudell, Kitchener, January 24, 1934; 1925, W. J. LeMay, Pickering, January 3, 1934.

Outside of Ontario: 1889, A. Hugh Hipple, Omaha, Neb., July 29, 1933; 1895, T. H. Levy, Victoria, B.C., December 8, 1933; 1900, F. R. Mallory, London, England, August 4, 1933.

Respectfully submitted,

(Signed) W. E. WILLMOTT,
May 1, 1934. Secretary, R.C.D.S.

TREASURER'S REPORT

Gentlemen: Your Treasurer presents, herewith, his report for 1933-34.

Licentiate Fees—Just previous to the last annual meeting 115 arrears for 1932 and 1933 were put into the Division Court. Subsequently, several writs were issued and several judgment summons.

Extra Mural Service—In July last a cheque was received from the University of Toronto for \$280.00, being the balance at the end of the University Financial Year, June 30th, which had not been expended for honoraria for the speakers from the grant of \$1,000 made by the Board and forwarded to the Bursar.

In March it was found that the requests for Extra-Mural Service would require an extra \$95.00 for Honoraria which was sent the University on instructions from the President.

During the year 19 speakers and

clinicians visited 55 meetings, whose expenses amounted to \$934.46.

In consequence of the increasing requests for this service it might be well to reconsider the regulations that not more than *three* visits shall be made to the same place in any one year.

Ex-Service Men's Loan — On April 30, 1933, 92 men owed \$24,533.69 on their loans. During the year, 3 have paid in full \$33, 15 others have paid on account \$394.35. On April 30, 1934, there were 89 owing \$24,107.34. Interest amounting to \$1,569.62 has been transferred to the Board account. Government Bonds amounting to \$38,500.00 are on hand.

In November when the Ottawa Valley Bonds of the R.C.D.S. were being exchanged, your Treasurer noticed that there was about \$1,800 in this account and purchased \$1,500 Government Bonds, overlooking the fact that the amount included \$875 coupon interest, which should later be transferred to the Board account. Consequently, this account owes the Board account \$425.00 interest.

Ottawa Valley Bonds — As in-

structed by the Board these Bonds have been sold, the price obtained was 99½ and Dominion of Canada bonds 4½-1958 were purchased at 100.

Library—Nothing has been expended during the year of the \$143.13 on hand, balance of special grant from the Ontario Dental Association in 1926-27 to be expended as the Librarian desired.

Harry R. Abbott Library Fund —During the year \$409.10 has been received from the Trust Co. The grant of \$500 was forwarded to the University and \$2.60 was paid for a book. Bank interest amounted to \$46.57. There is now in the account \$1,487.62.

Auditors' Statements Submitted Herewith

(a) Balance sheet showing Assets and Liabilities.

(b) Receipts and Disbursements of Board Account.

(c) Receipts and Disbursements of Ex-Service Men's Loan Account.

(d) "Harry R. Abbott Memorial Library Fund."

Respectfully submitted,

(Signed) W. E. WILLMOTT,
May 5, 1934. Treasurer, R.C.D.S.

DENTAL SOCIETIES

Hon. Dr. Faulkner Advocates Hospital Dentistry

"The time has come when there should be a dental service established in the hospitals whereby the dental profession should be recognized for the service they are rendering to humanity," said Hon. Dr. J. A. Faulkner, minister of health, speaking at the luncheon of the Ontario Hospital Association recently. "I throw that out, not having consulted the cabinet," stated the minister.

A large number of oral cases brought out the hospitals eventually have to consult an expert dentist, said the minister.

Dr. Faulkner recalled that he had circularized the hospitals, giving them a certain intimation. So far as he was concerned there would be no commands. They were going to attain results through co-operation.

It has been felt that the indigent population has become a very serious responsibility, he said.

It has been approaching very serious proportions. The municipalities paid \$4,510,813 in the fiscal year 1933 and the provincial government \$1,090,156, he stated.

"I do believe a policy can be worked out whereby this cost can be reduced to the benefit of municipalities and the provincial government without interfering with the humanitarian work carried on."

"It is a fact that the indigent patient is kept in the hospital twice as long as the pay patient," said the minister.

"We may obviate these conditions by introducing a policy supported by the government of

establishing convalescent homes in the larger municipalities," stated the minister.

"We are honestly endeavoring without interfering with the administration to reduce the cost," he said, adding that in Ontario mental hospitals they would save \$41,861 a year as result of economies effected.

Dr. Faulkner asked co-operation in respect of the distribution of insulin. He had been informed that the number reported as indigents who received insulin was out of all proportion.

A gentleman applied to the department for his supply of insulin and was surprised to find that it was only for indigents. He said he was quite prepared to pay for it. That morning this gentleman had done \$3,100 worth of work.

"It has been proven that organizations that you would think beyond suspicion are trying to put things over on the provincial government," he said, speaking of the necessity of sending out auditors.

Dr. Faulkner paid tribute to Dr. F. W. Routley for his activities in building up a hospital system second to none.

The hospital on Manitoulin Island, he announced, would be conducted by the Red Cross.

Dr. D. M. Gallie Addressed Dentists at Royal York Hotel, Toronto

Dr. Donald M. Gallie, of Chicago, who was the speaker at the Royal York Hotel, October 22, when the Academy of Dentistry inaugurated the season with a dinner meeting which was attended by representa-

tives of the Provincial Government and City Council. Dr. Gallie, who has the reputation of being a keen student of world affairs, spoke on the subject, "Dentistry at the Crossroads."

Want Dentist to Head Group Provincial Bureau

Essex County Body Passes Resolution on Fees

As a result of dissatisfaction among local dentists with the present Public Welfare Committee, the Essex County Dental Association at their meeting at the Norton Palmer Hotel went on record as being in favor of recommending that a dentist be appointed to supervise the Ontario Department of Dental Services, as opposed to the present system, which had as its head Dr. F. J. Conboy. By so doing, it was felt that the appropriation of fees for welfare work would be more evenly distributed among the local clinics.

Under the present system, which allows each dentist the sum of \$20 a month for all welfare work done, the appropriation becomes inadequate for the actual value of the dental services rendered, it was said.

At this point the discussion grew so heated that the chairman, Dr. Charles Biehn, directed the trend of discussion toward recommending that the organization vote to register a formal protest, stating that, with reasonable fees, the appropriation should be increased and that a more equitable distribution among the local dentists be obtained.

A tentative list of minimum fees was settled upon, to be observed by the members of the association. The price for a gold filling, as based upon the fee of 1928, was fixed at \$5; upper and lower condense plates, \$100; gold plates,

\$200; upper and lower vulcanite partial plates, \$30; local extractions, per tooth, \$2; gas, \$3; examination, \$2; full mouth X-ray, \$7, and single X-rays, \$2.

Fakers, Faddists in Foods

Montreal, Oct. 19.—The greatest fault of dietetics at present was the attempt to use a stock or printed list for a particular disease and apply it to all patients afflicted with the disease irrespective of the particular needs of the individual patient, Dr. Clifford J. Barborka, Chicago, told the 10th annual Fall clinic of the Montreal Dental Club.

Speaking on the "present conception of diet to health and disease," Dr. Barborka said diet was now recognized as of great importance in relation to health and disease. Within recent years scientific knowledge of the vitamin content, mineral elements and other foods had increased tremendously. "Coincident with this advance," he said, "which has developed a more thorough appreciation of the use of properly selected foods in the promotion of health, the food fakirs, faddists and pseudo scientists, picking out an occasional truth, distort it and broadcast to the unsuspecting public a tremendous volume of misinformation.

Dr. Barborka said many superstitious beliefs about food had been handed down from generation to generation, and people clung to them although there was no scientific foundation whatever for these myths. "There is little or no foundation for the belief in the special efficacy of special foods," he said, "and the idea of foods reacting in such mysterious ways and forming explosive mixtures is entirely a creation of the lurid imagination of food cultists."

A few bad food habits were cited by Dr. Barborka as follows: Eating too many sweets, concentrated and

refined food, failure to appreciate less highly flavored foods, using too little milk, excessive fondness for hot breads, rich desserts, cold foods, and soft drinks, drinking too much coffee, taking insufficient breakfast or lunch, and eating too quickly.

In conclusion he listed the following foods he said should be incorporated in the daily diet for the normal adult:

At least one pint of milk.

One egg.

One serving of two ounces of meat, fish or fowl.

Two servings of fruit, one raw.

One and one-half squares of butter.

Other foods such as potato, starches, fats and sweets might be added to maintain a normal weight.

Dr. D. M. Gallie Addresses Toronto Dental Academy

Speaking very strongly to the members of the Toronto Academy of Dentistry at their annual dinner in the Royal York Hotel, Dr. D. M. Gallie, D.D.S., F.A.C.D., of Chicago, a former Canadian, and guest of honor, called attention to efforts being made in some quarters to change the present status of the profession.

"Whether you think so or not," he said, "we are confronted by a grave menace of interference of outside influence in the conduct of the dental profession. I say that this society and all organized agencies must take a firm stand and fight for the professional control of dentistry. No dentistry is better than poor dentistry, and it will be poor dentistry if we lose control."

In the course of his speech Dr. Gallie reviewed the progress of dentistry from the time he entered the profession, forty-four years ago. He had seen, he said, many

wild fads and fancies come and go, but on the whole the constructive educational advance that had been made had never been equalled by any other profession. In his time he had seen the educational requirements advance from a grammar school certificate to two years in arts and four years of intensive professional training, at the end of which a man was far better qualified to practise his profession than the graduate of any other course of studies.

"The young men of today," he added, "are wonderfully trained, and you older practitioners, if you want to keep up with the profession, must study. Get out your textbooks, and get new ones. Most of your old ones are not worth a tinker's dam."

Dr. Gallie urged the need of outside help for the dental profession. During the past twenty-five years, he said, the medical profession had received two hundred million dollars for research work, as against nine million for dental research. With the return of better times that seemed to be coming, he hoped to see dentistry receive the support that was its due from the hands of the laity.

The Academy numbers some 240 members, and the dinner, which was very well attended, proved to be a very pleasant social function. A pleasing interlude was the presentation to Mrs. Ross Thomas, president of the Ladies' Auxiliary, of a bouquet of roses.

Dr. Frank Martin, president of the Academy, was in the chair, and short addresses were delivered in the course of the proceedings by Hon. Dr. J. A. Faulkner, Ontario Minister of Health; Dr. M. H. V. Cameron, president of the Academy of Medicine; Dr. Gordon Jackson, Toronto Medical Officer of Health; A. W. Laver, Welfare Commissioner; Dr. F. J. Conboy, and Dr.

E. T. Guest, chairman of the Toronto Board of Education.

Dr. Harold Clark was presented with an honorary life membership in the Academy, and Dr. E. A. Grant received a Past President's badge.

The Dental Auxiliary

The Dental Auxiliary held a successful bridge in Eaton's Round Room, attended by more than 100 members and guests. Mrs. M. A. Ross Thomas presided, and Mrs. E. A. Grant and her committee were in charge of arrangements. Dr. George Little gave an illuminating talk on "Educating for Beauty"; and Dr. Frank Martin, president of the Toronto Dental Academy, and Dr. William Kerr, secretary, each gave a brief talk on the indigent dental clinic. Mrs. Frank Martin sang a delightful solo.

Annual Meeting, Toronto Dental Assistants' Association

The annual meeting of the Toronto Dental Assistants' Association was held in the rooms of the Dominion Dental Company on Monday evening, October 1st. The president, Miss Jessie Brown, asked for a report of the year's work, after which election of officers took place for the coming year:

President, Miss D. Collett; vice-president, Miss G. Wiggins; rec. secretary, Miss H. Seminuk; treasurer, Mrs. M. Edwards; social

convener, Miss M. Buick; membership convener, Miss Jean Jackson.

The retiring president addressed the members and wished the new officers every success in their year's work.

Council of the Saskatchewan Dental Surgeons Seek Remuneration for Services Rendered in Drouth Districts

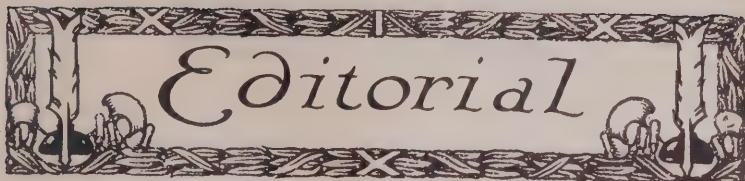
Seeking a new agreement with the Provincial Government whereby dental surgeons would receive remuneration for services to drouth area indigents, council of the Saskatchewan Dental Surgeons waited on Hon. J. M. Uhrich, Minister of Public Health.

The delegation reported consideration of their requests had been promised.

The council is now in session in Regina. It consists of Dr. H. A. Brett, Regina; Dr. W. W. Irwin, Moose Jaw; Dr. J. C. King, Humboldt; Dr. J. D. Brass, Yorkton, and Dr. P. W. Winthrop. Sessions are being held in the office of Dr. L. J. D. Fasken, secretary.

Hamilton Dentists' Society Merge

A new society of members of the local dental profession was formed in which the former Hamilton Dental Academy and the former Hamilton Dental Society will be merged under the name of the Hamilton Dental Association.



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

ASSOCIATE EDITORS

QUEBEC—Eudore Debeau, L.D.S., D.D.S., Montreal.

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“The Lady Doth Protest Too Much, Methinks”

Over forty years ago I attended my first convocation, where the chief burden of the addresses was the danger of Dentistry being swallowed up by Medicine. Periodically, ever since that time, the dental profession nearly swallowed itself because of fear of the same bogey man. At that time not half of the states had a dental law: notwithstanding this fact, Dentistry has gone ahead and established itself as a profession.

The cry now is that dentists are not accepted socially as are some of the other callings. One is sometimes driven to think that the profession assumes itself to be inferior. Is it true, as Hamlet says, “The lady doth protest too much, methinks”? Instead of attacking other professions, it would be far more to the point if Dentistry would mind its own affairs and stand on its own feet.

It reminds me of what the late Col. Denison said when a reporter asked him what he would do if he could, by one act, do the greatest good for the world. After thinking for some time, he said “Young man, I would establish in every university a faculty whose business it would be to teach people to mind their own business.”

DENTAL NOTES

Death Follows Infection After Tooth is Extracted

Infection following extraction of a tooth October 18, 1934, was responsible for the death yesterday of George Salts, 32 years old, of Penrose Road. Salts was taken to St. Mary's Hospital for an operation to relieve the pressure of the swelling in his throat. He was given an anaesthetic, but before the operation could be started his throat had closed up and he expired. Dr. M. M. Crawford, the chief coroner, investigated. No inquest is to be held.

Dental Lecture

Dr. J. Johnston, of the Royal College of Dental Surgeons, Toronto, was in Sarnia September 29 in connection with the extra-mural lectures given under the auspices of the local dentists.

Dentist is Appointed to Staff at Burwash

Sturgeon Falls, Sept. 27.—Dr. Douglas Van Allen, Sturgeon Falls, has been appointed dentist for the Burwash Industrial Farm, according to an announcement received here from Dr. J. D. Heaslip, Toronto, Medical Inspector. Dr. Van Allen will start his work on October 1.

Dental Nurses Honor Departing Member

Mrs. Evelyn Horne, who is leaving shortly to live at the Pacific Coast, was honored Wednesday evening recently when the Regina Dental Nurses' Association entertained in the Gold room of the Novia café.

Dental Groups Meet

Dr. Victor Jekill Speaks at Opening Gathering

Eight times as much money is spent on cosmetics in the United States each year as is spent on dentistry, it was pointed out by Dr. Victor Jekill, well-known Montreal dentist, when addressing a group of dental assistants in the Medical Arts Building, Sherbrooke street west.

The gathering was made up of members of two Montreal organizations, the Montreal Dental Assistants' Association and the Progress Study Club, both of which have similar objects. It was the first regular meeting this season of the M.D.A.A. and representatives of the other group of dental assistants were the guests of the sister organization.

Dr. Jekill as guest speaker gave a talk on dental aesthetics and also gave a demonstration of dental work. Arrangements for further joint meetings of members of both societies were made, the first one to take place next month in the Medical Arts Building. The discussion was on the restoration of facial harmony by the use of ceramic stains.

Representing the Montreal Dental Assistants' Association was Miss W. A. Hyde, president; and the Progress Study Club, Miss Robinson, treasurer.

Dr. J. Erskine Campbell, of Halifax, has arrived in town to take over the dental practice of Dr. J. W. Davies, who is retiring.

Asks \$15,000 from Dentist Suit Follows Highway Crash in 1933

Brussels, Ont., Woman Sues
Claims Damages from H. R. Hall,
of Goderich

Dr. H. R. Hall, Goderich dentist, is being sued for \$15,000 damages in a Supreme Court civil action set down here today for trial at the Fall Assizes. The plaintiff in the action is Miss Winnifred Long, of Brussels.

The action arises from an automobile accident that occurred on No. 8 highway about one and a half miles east of Seaforth on September 15, 1933.

Miss Long says she was permanently injured in the accident.

Dr. Hall denies he was negligent. He claims the accident was caused by William Long, who, he says, was driving the car in which the plaintiff was riding.

First Woman Dentist Dead

Quebec, Oct. 9.—First woman in Canada to receive the degree of Doctor of Dental Surgery, Madame H. E. Casgrain, is dead here, aged 73. She was the widow of Dr. H. E. Casgrain, well-known Quebec dentist.

Starting Dental Clinic at Brockville

Members of the Rotary Club recently approved of a project to establish a dental clinic in connection with the Brockville public and separate schools which will be conducted by local members of the dental profession acting in co-operation with the Board of Education and the provincial dental department. The Rotary Club is purchasing equipment for the clinic not to exceed an outlay of \$500, and will contribute about \$200 to the cost of operating it annually, the provincial govern-

ment also contributing 25 per cent. to the cost of operation. The clinic will be for the benefit of children belonging to the schools whose parents cannot afford to furnish them with the necessary dental equipment.

Dr. Frank Hinds, Dentist at Ontario Hospital

The Ontario Department of Health has appointed Dr. Frank Hinds, of Orillia, as dentist on the staff of the Ontario Hospital at Orillia, on a part time basis. In the past the dentist was on a full time schedule.

Dr. Gordon G. Beesley

After a two-years' post-graduate course in Rochester, New York, Dr. Gordon G. Beesley, D.D.S., has returned to his home town in Moose Jaw.

Dr. Beesley studied at the University of Toronto, from where he graduated in May, 1932, with the degree of doctor of dental surgery. In the fall of 1932 Dr. Beesley went to Rochester, New York, where he took a two-years' post-graduate course. Dr. Beesley has decided to practise his profession in Moose Jaw.

Appeal in Dental Case is Refused by Judge Whitla

Decision of Magistrate R. B. Graham of city police court in dismissing a charge of breach of the Manitoba Dental Act, brought against William Donald, dental mechanic, was upheld today by Judge H. W. Whitla.

Donald was charged with practising dentistry without a license. Magistrate Graham preferred to take the word of the accused against the testimony of paid investigators and dismissed the charge, with costs, against the Manitoba Dental Association, the informant.



THE LATE DR. W. D. COWAN,
M.P. FOR LONG LAKE, SASKATCHEWAN.

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MONEY****... diluted**

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PEPSODENT Antiseptic is manufactured under the most exacting scientific standards. That's why it can be used full strength with perfect safety to delicate membranes. Yet, due to its high germ-killing power, Pepsodent may be diluted with two parts of water and it still kills bacteria in less than 10 seconds.

Most people *do* dilute the antiseptics they use. They know from experience that it's a

simple matter. And when Pepsodent is diluted, anyone can be assured of effective germicidal action at a saving over antiseptics that require full strength.

Other antiseptics may make what claims they will. That Pepsodent is safe, even when used full strength, and effective when diluted, seems amply proved by tremendous acceptance both from the dental profession and the layman.

THE PEPSODENT CO., TORONTO, ONTARIO

OBITUARY

Dr. W. D. Cowan, M.P. for Saskatchewan, is Dead

Regina, Sept. 29.—Dr. W. D. Cowan, member of parliament for Long Lake constituency, Saskatchewan, died Sept. 29th following a brief illness.

While Dr. Cowan has been in poor health for a number of years past he attended to his parliamentary duties, and in the last session was quite active, particularly in connection with the marketing bill.

Dr. Cowan was born in Guelph, Ontario, December 31, 1865, a son of Walter Scott and Margaret (Watson) Cowan. His father was a native of Galt, and his mother was born in Perthshire, Scotland. Dr. Cowan entered upon training for the profession at the University of Maryland, Baltimore, where he graduated in 1888.

At the age of 23 he located in Regina, practising his profession actively up to a few years ago. When the first dental law was promulgated in the Northwest Territories he organized the first dental association in 1889, serving as president for over a quarter of a century.

In his' day Dr. Cowan served as a town councillor, a city alderman, and mayor. He was elected to the House of Commons in 1917 as Conservative representative for the Regina constituency. In 1930 he was elected for the Long Lake constituency.

Dr. Cowan is survived by his daughter, Acanita; a son, Canada Harold, who had served during the Great War with the Canadian Dental Corps, died in 1924 at the Coast.

Dr. Cowan will be buried Monday afternoon, with services con-

ducted by Rev. John Mutch, at Knox United church. Interment will be made in Regina.

Aside from political activities, Dr. Cowan gave much time and effort to societies affiliated with the dental profession. For two years he was president of the Dental Association of Canada, for a quarter of a century was secretary-treasurer of the Dominion Dental Council and Associate editor of Dominion Dental Journal from 1900 to the time of his death. For 26 years he was president of the Provincial College of Dental Surgeons.

For many years Dr. Cowan was associated with several fraternal organizations, his affiliations including memberships in the A.F. and A.M., the Independent Order of Foresters, the Ancient Order of United Workmen, the Knights of Pythias, the Sons of Scotland and Royal Templars of Temperance. For two years he was grand master of the United Workmen for Manitoba and the north-west territories. When military district No. 12 was organized, Dr. Cowan was placed in command of the Regina dental district with the rank of major.

Necessitates Another By-Election

Ottawa, Sept. 29.—The death of Dr. W. D. Cowan, Conservative member for Long Lake, at Regina Friday night, creates the second by-election pending for the House of Commons. Hon. W. A. Black, senior Conservative member for Halifax, and a former minister of railways and canals, died Sept. 1.

Possessed of spontaneous humor, Dr. Cowan will be missed by parliamentarians of all political persuasions.

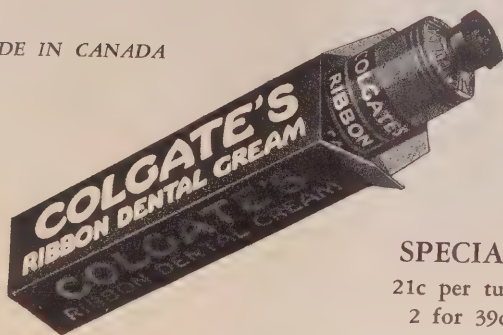
In the House of Commons, he

Nothing but the truth . . . for 30 years

From the maze of boasts and implications of dental cures made in modern toothpaste advertising, the truth of Colgate's single claim stands out bold and clear . . . as it has for 30 years.

*Colgate's can only clean teeth
. . . it takes a dentist to cure.*

MADE IN CANADA



SPECIAL
21c per tube
2 for 39c

COLGATE'S

R I B B O N D E N T A L C R E A M

was regarded as a unique but lovable character. His speeches on which he never spent any time in preparation, were intermingled with sparkling repartee, for he welcomed interruptions. And he got many, holding the members of the galleries in convulsions of laughter.

The 68-year-old dentist and returned soldier could tell a story well, and one suspected he used this ability to drive home his arguments. He had a high-pitched voice, which seemed to crack at times, and a quaint vocabulary. Yet, his remarks read well in Hansard.

Humorous Incident

But it was in connection with taunts of Quebec and Maritime Liberal members he had been

secretary-treasurer of the Ku-Klux-Klan in Saskatchewan the most humorous incident arose. Holding forth one night in his usual inimitable style, a Liberal member interrupted with an offer of a couple of pairs of pyjamas.

"I wear nightshirts," was the swift retort of the doctor, a twinkle in his eyes.

Two days later a box of silk nightshirts reached Dr. Cowan as a present from an Ontario manufacturing firm. Laughingly he exhibited them to his friends, called Conservative and Liberal members alike into his room to view them. "The color is a little gay for an old bird like me, but I'll wear them just the same," he remarked.

CONDENSED ADVERTISEMENTS

BUSINESS OPPORTUNITY--

For men who know how to sell. We want to develop a staff of live, energetic men with selling experience to represent three leading Canadian publications. It is spare-time work we offer. No interference with your regular occupation. No investment required—we supply all materials required. Real good commission and bonus arrangement for producers. Write Box 21, care of Dominion Dental Journal, 73 Richmond W., Toronto.

WANTED—A graduate dentist wishing to become established to share office in Ontario city and take surplus work. Will also provide rent-free apartment for two years. Write care of Box 120, Dominion Dental Journal, 73 Richmond St. W., Toronto.

FOR SALE—Modern and well established dental practice and office equipment in fine residential town in the Annapolis Valley, Nova Scotia. Cheap for quick cash offer. Box 119, Dominion Dental Journal, 73 Richmond W., Toronto.

FOR RENT—Dental offices with or without adjoining apartment—old established stand—270 Roncesvalles Avenue, Toronto, corner Westminster. Box 117, Dominion Dental Journal, 73 Richmond W., Toronto.

WILL THE ADVERTISER, whose initials are R. M. and whose ad was published in the October issue under Box 120, kindly let us have his full name and address that we may forward his mail. Box 121, Condensed Ad. Department, Dental Journal.



M. H. GARVIN, D.D.S., L.D.S.,
Editor of
The Journal of the Canadian Dental Association.

We Lay Down the Pen and the Pencil

A profession is based on its written word. Without it no progress can be made. Dentistry has always been handicapped by the importance placed upon mechanical procedures. Very few, if any, dentists give attention to the importance of establishing a dental literature. In the early days of dentistry in Canada, the leaders recognized the need of a literature as is well exemplified in the addresses given at the first meeting of the Canadian Dental Association in Montreal 1904. The addresses given at that time have been a great help in establishing a standard of excellence in English expression. During the early years of Canadian dentistry one or more members represented the dental press at all dental functions. This practise did much to improve the status of dental writings and might well be re-established. As time went on, the standard of entrance to the study of dentistry was improved. Along with this the teaching of English was taken up in the Universities as a dental subject. Prizes were offered dentists and dental students for the purpose of improving dental writings and dental research. The Dominion Dental Journal took its part in promoting high standards in dental education. It is a remarkable thing, that in an existence of over sixty-five years it has had but two editors-in-chief. Great credit is due to the associate editors under whose guiding hands the Journal has been able to maintain a high standard, in the face of many misfortunes financial and political.

The present editor takes this opportunity of expressing to the associate editors his gratitude and appreciation for their unswerving assistance and loyalty given him under all circumstances. The Journal was established under its present name over forty years ago by the Nesbit Publishing Company with the financial background of C. H. Hubbard Company. When this company failed, publication was taken over by some of its friends and was continued until 1911 when the Consolidated Press, the present owners, took it over with the editor and staff. It is now fitting and expedient in the interest of Dentistry that the name be changed to the Journal of Canadian Dental Association with a new set of officers under the editorship of M. H. Garvin, Winnipeg, and under the ownership and control of the Canadian Dental Association. Under the new arrangement the Journal will be issued from Toronto on the tenth of each month. As we lay down the sceptre of office, we expect it to be taken up with all the vigour and intelligence of young and aggressive Canadians. We hope that those things which the Dominion Dental Journal espoused and which were right will be prosecuted until attained.

We bespeak for the new publishing venture a marked success because of the wide national support it will command and the ability of the editorial staff.

We give the Journal a fond farewell, believing it will continue to serve the profession and the nation, holding fast to the foundation of professional progress.

ORIGINAL CONTRIBUTIONS

University Education

J. Kreutzer, D.D.S., B.Sc., (Dent.),
Faculty of Dentistry, University of Toronto

"The nation that has the schools
has the future."—*Bismarck*

The complexities of our modern industrial civilization and the adverse economic conditions of the past few years, have at least compellingly accomplished one thing—an increased interest in learning. Many young people are turning back to schools and universities to study current economic, social, and political problems, both national and local, in order to keep abreast of and understand present changing systems and developments. Many unemployed individuals want to be directed away from idleness, the root of much evil, and redirect their lives toward careers of better civic and economic usefulness and to become more intellectually matured citizens. In short, this is an era which demands more than ever before, men and women with a "complete and generous education which will fit them to perform justly, skilfully and magnanimously all offices both private and public." And because universities are a preparatory measure or a partial means to this end, some who have the interest of the future at heart enroll in these educational institutions.

Should one enquire from the majority why they go to university, various explanations would be received. A few are there because others go and their parents have the price—victims of misdirected parental love. To them, university is a make-believe, one way of killing time and enjoying social activities. They are attracted by fads, fancies and that which is of little future value. They are the kind that never score because the ideals of the university have no appeal to them.

Possession of academic education appeals to others because it gives polish and culture, and separates the learned classes from the ignorant. It is a bit of ornamentation stuck on. Such a view of acquiring superior manners, grace and excellence, is not high ideally. "My brother must have all that I have—for my brother is myself and I am here." Education should not serve as a tower from which to look down upon others whom birth and ill-fortune have debarred this opportunity to advanced study. The bashful and socially uncultured youth of the rural district—"with

mind slowly ripening in its rough husk"—although he cannot analyze a complex sentence, nor give the Greek and Latin roots of words, possesses just as much education and culture in that he has the ability to analyze an ear of corn and tell clover roots from those of alfalfa. He has studied Nature and understands its laws.

University education holds a commercial or utilitarian ideal to probably the majority of students, which by no means is an ignoble one but not the highest. But how disappointing it is to many after graduation, to realize that success in life does not hinge nearly as much as they once dreamed on academic education and its degree. A university degree is not always a sesame to success in life. Such graduates seek reconciliation in trusting that the day will soon dawn when they too can realize truth in that "chance favors the prepared mind."

This applies well to the undergraduate in dentistry and medicine who not only studies these sciences with a utilitarian view as its end, but also with a humanitarian ideal—to later serve humanity, relieve pain and give improved health and comfort to the general public. He graduates with knowledge but little dexterity; he has learning but little competence; he has a kit of tools and was taught how to use them. He opens practice, serves humanity, for which he demands adequate compensation to provide for himself and those dependent on him. How soon he realizes, however, that his degree is not always followed by financial success although it has prepared him for his life's work more effectively. But should success be entirely measured in dollars and cents, and is there not something in useful service to the world? "If a dentist is thinking of

his rewards before his service, then he is not practising a profession, but is in commerce." Therefore, let professional education not be "a workshop for gain and merchandise."

The university to many is a place for acquiring a great deal of knowledge on a great many subjects—education of the intellect which will conserve for the future the intellectual achievements of present and past. They feel that "it is impossible to make wisdom hereditary" and that "education is a debt due from present to future generations."

However, the highest and best is the creative ideal which should be possessed by all students. It is the desire to improve one's whole self, to become stronger and better men and women capable of more and higher service. Therefore, "let our schools teach the nobility of labor and the beauty of human service."

The preceding are some of the ideals possessed by university students, but are they all the ideals of the university?

Probably the first aim of the university is to teach things in their universal aspect, to give universal knowledge. "That only is true enlargement of mind which is the power of viewing many things at once as one whole, of referring them severally to their true place in the universal system, of understanding their respective values, and determining their mutual dependence."

The purpose of a university, however, is not merely teaching people what they do not know—cultivation and illumination of the intellect, with scholarly acquirements—but it also aims at development of manhood and character. It shows people how to behave and to be useful; it encourages and develops the right habits until they become part of oneself and are

exercised automatically; it does more to root in us the feeling of unity with our fellow-men.

The psychological aim of academic education is that it unfolds certain innate potential attributes of an individual and allows the potential life to realize itself. This means growth and evolution of the student to the heights of his inborn possibilities. Apart from the curriculum, the university with its environment does him good — new people and friends, new scenes, new ideas, new activities, new conditions with which to cope. This enriches his experiences and conduct, developing him intellectually, physically and socially.

Education is of further importance because it teaches the undergraduate to think, to weigh, and then to decide. "It should give him the love of learning which is better than learning itself."

In all, a University tends to give a liberal education. "That man, I think," says Huxley, "has had a

liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect, is a clear, cold, logic engine, with all its parts of equal strength, and in smooth working order; ready like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of Nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience who has learned to love all beauty, whether of Nature or of art, to hate all villainess, and to respect others as himself."

"That man is best educated who is the most useful, who thinks the noblest, and who acts the best."

Report of Meetings of the Board of Directors

Royal College of Dental Surgeons
of Ontario, 1933-1934

REPORT OF THE DISCIPLINE COMMITTEE

During the year the Discipline Committee has held four meetings at which about fifty different items of business were considered.

The following is a condensed report of the proceedings, together with the action of the Board in the cases.

Investigations

C. A. Risk, Toronto—Regarding his advertisement in the Toronto "Evening Telegram" of Saturday, April 7th, 1934.

The Committee reported him to the Board as being guilty of disgraceful and improper conduct in a professional respect.

The Board cancelled his license. (The case has been appealed).

G. A. C. Gunton, Toronto—Regarding his connection with the Health Acceptance Co., The Dental X-Ray Company and the Danforth Dental Laboratory, or any one or more of them, and their advertisements and regarding "swap" advertisements.

The Committee reported him to the Board as being guilty of disgraceful and improper conduct in a professional respect.

The Board cancelled his license. (The case has been appealed).

Dr. ———, Toronto—Regarding his connection with C. A. Risk and his advertisements.

The Committee reported him to the Board as being guilty of dis-

graceful and improper conduct in a professional respect.

The Board postponed the pronouncement of a penalty.

Dr. ———, Toronto—Regarding his advertisement in a Chinese paper published in Toronto.

The Committee reported him to the Board as being guilty of disgraceful and improper conduct in a professional respect.

The Board suspended his license for one month.

Dr. ——— In the Niagara Peninsula—Regarding his travelling Dental office.

The Committee reported him to the Board as being guilty of improper conduct in a professional respect.

The Board ordered him to discontinue the practice.

Dr. ———, Toronto—Regarding his relations with C. E. Bishop, Dental Mechanic, who was convicted of practising without a license.

The Committee reported the evidence to the Board and no further action was considered necessary.

Dr. ———, Toronto—Regarding his relations with John Erskine, Dental Mechanic, who was convicted of practising without a license.

The Committee reported the evidence to the Board and no further action was considered necessary.

Dr. ———, Toronto—Regarding a circular letter sent out from his office.

The Committee reported to the

Board that the letter was unprofessional, and the author was so notified for his future guidance.

Dr. _____ and Dr. _____,
Ottawa—Regarding their cards in the yellow pages of the Telephone Directory.

The Secretary was instructed to notify these Dentists to have the cards changed in the next issue.

Unprofessional cards, &c.—Several instances of unprofessional cards or advertisements in the press or other publication were investigated and satisfactorily disposed of.

Prosecutions For Practising Without a License

C. E. Bishop, Bloor St. W., Toronto.

Bishop was convicted on November 15th, 1933, but, on the request of the Crown Attorney, was remanded for sentence. (It was found that no appeal could be taken in this case).

A. J. Frohman, Windsor.

Frohman was convicted on December 27th, 1933, and fined \$100.00.

Stanley Plain, Grimsby.

Plain (prosecuted by the Dental Society of Hamilton) was convicted on February 2nd, 1934, of a second offence and fined \$200.00 and costs. John Erskine, Physicians & Surgeons Building, Toronto.

Erskine was convicted on February 5th, 1934, and fined \$100.00. George Burnett, Church Street, Toronto.

Burnett was convicted on April 27th, 1934, and fined \$100.00.

Gil Macher, Church St., Toronto.

Macher was convicted on May 3rd, 1934, of a fourth offence and fined \$500.00. (This case has been appealed.)

Edmund Cleford, St. Thomas.

Cleford was accused of practising without a license in a local office. He was acquitted. This was appealed.

(On June 20 Cleford pleaded guilty and was remanded for sentence).

The Dental Act has been so changed that it is an offence for any person to have in his possession equipment commonly used by a dentist. Another change that the executive of the Board has made is that four members of the College can direct the Discipline Committee to make an examination and investigate any complaints against members of the College.

The method of election of members of the Board has been changed to make it impossible for anybody to find out how another voted—in other words, it will be a secret ballot.

School Clinic Appointment

A controversy arose in a Western Ontario city over a change in the appointment to the School Dental Clinic, made at the request of the local Dental Association.

The Chairman of the Committee, by request, investigated the situation and the matter was satisfactorily terminated.

Mail Order Dentistry

This subject occupied much time of the Committee and the activities of the International Dental House, (formerly the Chicago Dental House), which is attempting to induce Canadians to procure dentures from them by mail, were investigated.

On representations to the publishers considerable advertising was discontinued. Further progress was made by the Committee in other directions and it was deemed wise to refer the matter to the Board for further action.

E. C. VEITCH, Chairman
Discipline Committee.

June 1, 1934.

BORDER ADVERTISING

The question of advertisements of American Dentists in our border papers has repeatedly been before the Board and every effort possible has been made to overcome this practice.

The New York State authorities

seem to be able to control this somewhat.

For years the Michigan authorities were helpless, but recently they have secured an amendment to their Act which gives them some control. The advertisers have appealed to the Courts, where the case is now pending.

BUDGET

On the motion the budget was approved as follows:

	For 1933-34	Received	For 1934-35
<i>Receipts:</i>			
Licentiate Fees	\$ 9,000.00	\$ 9,439.00	\$ 9,000.00
Registration fees, University of Toronto ..	2,000.00	1,860.00	1,600.00
Interest, University of Toronto	2,500.00	2,500.00	2,500.00
Interest, Ex-Service Loans	2,000.00	1,569.62	2,000.00
Interest on Bonds	740.00	700.00	660.00
	\$16,240.00	\$16,068.62	\$15,760.00
<i>Expenditures:</i>			
		Expended	
Secretary's Salary	4,000.00	4,000.00	4,000.00
Office Assistance for '32-33	25.00	25.00	25.00
Board and Committees	4,000.00	4,793.30	5,000.00
Printing, Postage, Stationery and Office Expenses	1,200.00	908.58	1,300.00
Nurses' Commencement	275.00	291.87	300.00
Auditor's Fees	150.00	135.00	150.00
Library Fund, Special	143.13	143.13	143.13
<i>Grants:</i>			
J. B. Willmott Scholarship	250.00	250.00	250.00
Honorarium, Librarian	150.00	150.00	150.00
Extra-Mural Service	2,000.00	2,029.46	2,000.00
Enforcing the Act	1,500.00	1,848.40	2,000.00
Faculty Contingent Fund	200.00	200.00	200.00
Dentists' Legal Protective Assn.	1,000.00	1,000.00	1,000.00
Office Furniture and Equipment	200.00	13.50	100.00
Portrait Committee	300.00	320.00	
Representatives National Association Dental Examiners	300.00	240.30	300.00
Faculty for Dental Research	500.00	500.00	500.00
Library and Museum	150.00	55.03	150.00
Five Eastern Counties Campaign			500.00
Canadian Dental Association			460.00
	\$16,343.13	\$16,760.44	\$18,528.13

BUSINESS TAX

Some time ago the attention of the Board was drawn to the manifest unfairness of the Business Tax levied on those Dentists who have their office in their home. The tax is based on one-quarter of the assessed value of the whole property.

A canvass was made of a number of those who have their office in their home and it was found that the average space occupied by the office is one-sixth instead of one-quarter of the floor space of the house.

A canvass was also made of a number of those who rent their

office, as far as possible, in a similar neighborhood to those in their home, and it was found that the average tax paid on an office in the home was a little over 18c. per square foot while in a rented office the average was only a little over 12c. per square foot.

Your Secretary discussed this with the Assessment Commissioner of the City of Toronto and with the Attorney-General's Department at the Parliament Buildings.

As this section of the Act refers to about twenty other callings, it was intimated that the Government would not take any action, but to get some member to introduce a private Bill.

Dr. H. A. Clark, M.P.P. of Brockville, very kindly consented to do so. The Bill provides that the 25% be reduced to 15%. This was introduced by Dr. Clark and referred to the Municipal Bills Committee. A deputation from the Board was present when the Bill came before the Committee. Dr. Clark explained the purport of the Bill and Dr. A. D. A. Mason spoke on behalf of the Dental profession. A few members asked questions and the Bill passed the Committee and was reported to the House without amendment.

On prorogation of the House in March the Bill was given Royal assent and became law.

CANADIAN DENTAL ASSOCIATION

In order to assist it in its work the Board decided to pay to the Canadian Dental Association 25c. for each Licentiate in good standing in Ontario, provided the Ontario Dental Association would pay a similar amount, each body to have an equal number of representatives in the C. D. A.

As the Ontario Dental Association agreed to this the Treasurer was instructed to pay the Treasurer of the Canadian Dental Association

the above sum, thus making all the Dentists who are in good standing in Ontario, members of the Canadian Dental Association.

Dr. W. H. Woodrow was appointed as representative from the Board.

CLINICS

The relation of Licentiates to Industrial and other Clinics was thoroughly discussed, and the following resolutions unanimously carried:

"That this Board will permit members of the College to practise their profession in clinics established for the Dental care of indigents when and as long as the Clinic has the sanction of this Board."

"That in the matter of Industrial Clinics this Board will not at present take exception when it can be shown that no financial gain accrues to anyone other than a member of this College."

COST OF GOLD

The question of the cost of gold to the profession was considered and Dr. Conboy, who was present at the time, explained that he had discussed this with the Customs Authorities in Ottawa and that there was no possible chance of any change being made.

DENTAL LABORATORY ASSOCIATION OF ONTARIO

This Association requested the Board to name a Committee with which the Association might advise in case of a dispute between a Dentist and a member of the Association in order to avoid the publicity of the Courts.

The Board expressed its appreciation of the efforts of this Association to overcome illegal practice by Dental mechanics.

It was decided that the President or the Chairman of the Discipline

Committee or someone appointed by the President should act in case of a request from the Association.

DENTAL SOCIETY OF HAMILTON

A letter was received from the Society asking the Discipline Committee to take action against illegal practitioners in Hamilton. The Secretary was instructed to reply, asking the Society to report the case of any offender or suspected offender to the District Representative.

A delegation from the Society met the Discipline Committee regarding the account of the Society for expenses in connection with the prosecution of Stanley Plain for violation of the Dentistry Act.

At a subsequent meeting of the Board the Treasurer was instructed to reimburse the Society the amount of the expenses in this case.

At another meeting of the Board a delegation was again received and discussed with the members certain communications which had been presented to the Board of Health in Hamilton and requested an opinion on the matter.

The following resolution was unanimously carried:

"That in the opinion of this Board of Directors of the Royal College of Dental Surgeons the restoration of lost teeth by means of dentures is essentially a health measure."

DENTAL X-RAYS

Several communications were received regarding the taking and reading of Dental X-Rays by other than Dentists, and asking if any action could be taken.

This question was considered at length, on several occasions, and it was decided that nothing could be done to prevent the practice complained of.

EDUCATION OF THE PUBLIC

Resolution: "That the members of this Board wish to express to the Department of Health of the Province their sincere appreciation of the activities of the Department in regard to Dentistry; they again solicit the aid of the Department in educating the Public to the need for Dental Services by articles in the press, or by radio, or by any other means available to the Department."

EXTRA-MURAL SERVICES

These resolutions were adopted: "That owing to the increasing number of requests for Extra-Mural services, except in certain circumstances, there shall not be more than two services provided from the Extra-Mural grant to any locally organized Dental Society, and that the dates of these services be arranged for seasonable times of the year;

And, That as the funds available are supplied by the Dentists of Ontario, through the Royal College of Dental Surgeons, the Secretary of the local Society will be expected to notify all Dentists within reasonable travelling distance."

"That the Board of Directors of the Royal College of Dental Surgeons wish to thank the Dean and the Faculty of Dentistry of the University of Toronto who have given such splendid service in the interest of the Dentists of Ontario, through the Extra-Mural and Graduate Consultation services.

EASTERN COUNTIES CAMPAIGN

A public Dental Health campaign is being carried on in five eastern counties of Ontario, under the direction of the Department of Health of the Province. The Medical and Dental professions are co-operating in this work. The Board granted \$500 towards this,

to be used exclusively in post-graduate instruction of the Dentists practising in these counties, under the supervision of Drs. Woodrow, Mason and Veitch.

GROUP INSURANCE

The Committee appointed in this subject reported that they had considered the matter and recommended that no action be taken at the present.

HOSPITALS

Two motions were passed:

"That the Board memorialize the Hon. Dr. Robb, Minister of Health of the Province of Ontario, through Dr. Conboy, Dental Officer of Health, requesting the Government to aid the General Hospitals of the Province to finance the installation of Dental Clinics, so that needy indigent patients may receive a Dental Health Service which they so urgently require."

"That the Secretary be instructed to write the Hospitals operating Dental Clinics asking them as far as possible to confine their Dental operations to indigent patients."

ILLEGAL PRACTITIONERS

Several cases of illegal practising were brought to the attention of the Board and the members were instructed to obtain a conviction where at all possible.

The matter is in the hands of the Legislation Committee of the Canadian Dental Association to which has been referred a letter received from Dr. J. W. Bell, Deputy Minister of Health, pointing out from a medical standpoint the serious dangers to the public health of such a procedure.

A very strong resolution has also been forwarded from the

Board presenting the matter from a dental standpoint and also endorsing the contents of Dr. Bell's letter.

The Canadian Dental Association will meet the Ottawa authorities, and it is hoped the Canadian mails and express will be denied the Chicago firm.

MINIMUM DENTAL FEE

This was discussed at some length, and it was decided that each member should prepare such a schedule after consulting some practitioners in his District and report at the next meeting.

MINIMUM WAGE BOARD

As several Dentists had had communications from the Minimum Wage Board a delegation from the Board of the R.C.D.S. met the Chairman of the Board.

The delegation presented the following report to our Board: Gentlemen:

Your Committee appointed to meet Mr. R. A. Stapells, Chairman of the Minimum Wage Board, present the following report:

It was brought to the attention of Mr. Stapells that the Board of the R.C.D.S. was in complete sympathy with the Act controlling "Minimum Wages" but that under the present unusual conditions many Dentists though financially curtailed, may yet be trying to retain their organization.

Your Committee requested:

1.—That, as the Dentists are not familiar with the Act, time be given for this Board to so notify our members to make them familiar with the Act.

2.—That because of this ignorance on our part, the Act be not enforced in a retroactive way. This could not be granted.

3.—What is considered part-time employment?

We were received very courteously and given very definite replies and suggestions, which we recommend should be incorporated in a personal letter to our members.

Committee:—G. L. Prestien

H. Irvine

W. H. Woodrow

A. D. A. Mason

The following were appointed: Dr. H. Irvine, Lindsay; Dr. G. H. Holmes, Owen Sound; Dr. E. C. Veitch, Toronto; Dr. G. L. Prestien, Galt; Dr. W. Seccombe, Toronto; Dr. E. T. Guest, Toronto; Dr. J. S. Lapp, Toronto; Dr. W. J. Langmaid, Oshawa; Dr. W. L. White-lock, Hamilton.

RESEARCH ON DENTAL MATERIALS

Of the grant made by the Board the Faculty was requested to apply as much as possible to research in Dental materials, and to having articles prepared for publication in Canadian magazines, the grant to be augmented if necessary to the extent of a further \$200.00.

SCRUTINEERS

Mr. H. J. Bolitho, Fee Clerk, and Mr. A. N. Laidlaw, Assistant Registrar, University of Toronto, were appointed as Scrutineers for the election of Members of the Board next fall.

SOCIALIZED DENTISTRY

The Public Dental Health Committee of the Ontario Dental Society held a meeting in April at which representatives were present from the Royal College of Dental Surgeons, the Canadian Dental Association, and the Ontario Dental Association.

Among the subjects considered was that of Socialized Dentistry, and it was decided to have a Committee study the question.

A communication was received from the Ontario Dental Association, stating that the President had appointed nine Dentists on the Committee to study the question of Socialized Dentistry, and requesting the Board to appoint a similar number.

FINANCIAL STATEMENT

(Year ending April 30th, 1934)

To the President,

Royal College of Dental Surgeons of Ontario.

Dear Sir:—

We have audited the books and vouchers of the Royal College of Dental Surgeons of Ontario for the year ending April 30th, 1934, and submit herewith certified Balance Sheet and Statements of Receipts and Disbursements for the General Accounts, Ex-Service Men's Loan Accounts, and the Harry R. Abbot Memorial Library Fund.

With reference to the collection of loans to ex-service men, the condition still exists that there are relatively small payments being received. The payments on principal and interest during the year under review amounted to \$426.35 and \$193.00 respectively, and the unpaid balances as of April 30th, 1934, were \$24,107.34. In this connection, we would refer you to the policy adopted by the Board at its October, 1933, meeting as to the collection of these loans. As recommended in our last year's report, the \$400.00 balance owing by a borrower who died during that year and which was subsequently written off should be confirmed by resolution of the Board. No accrued unpaid interest on these loans has been considered in the accompanying statements.

No payments were received during the year on account of the students' loan and accrued interest.

As the note given for this loan is dated October 31st, 1929, we would suggest that a new note be obtained covering principal and interest, and efforts made to have the lapsed life insurance policy reinstated if possible for security.

The outstanding licentiate fees

at April 30th, 1934, amounted to \$566.00, which included \$121.00 for year 1933 and \$35.00 for 1932.

Respectively submitted,

THORNE, MULHOLLAND, HOWSON
& MCPHERSON,
Chartered Accountants.

BALANCE SHEET

(April 30th, 1934)

ASSETS

Cash on hand and in bank:

Board Account	\$11,664.95	
Ex-Service Men's Loan Account	15.76	11,680.71

Investments, at cost:

C.N.R. Bonds, 4½%, 1954, Par \$19,000.00	18,117.50	
C.N.R. Bonds, 4½%, 1957, Par \$5,000.00	4,850.00	
Prov. of Ontario Bonds, 5%, 1948, Par \$5,000.00	5,375.00	
Prov. of Alberta Bonds, 5%, 1959, Par \$2,000.00	2,000.00	
Prov. of Saskatchewan Bonds, 5%, 1959, Par \$2,000.00	2,000.00	
Prov. of Ontario Bonds, 5½%, 1946, Par \$4,000.00	3,897.90	
City of Toronto Bonds, 6%, 1940, Par \$5,000.00	5,050.00	
Dominion of Canada, 4½%, 1958, Par \$9,500.00	9,501.25	50,791.65

Ex-Service Men's Loans Receivable		24,107.34
Loan to Student and Accrued Interest		381.00
Interest Accrued on Bonds		374.68
Interest Accrued on Equity in Land, Building, etc.		2,083.33
University of Toronto, Students' Registration Fees		660.00
Licentiate Fees Unpaid		566.00
Office Furniture and Equipment	863.40	
Less Depreciation Reserve	128.84	734.56

Equity in Land, Building and Equipment, School of Dentistry, retained under By-law No. 52 of the University of Toronto		50,000.00
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Trust Fund:

Cash in bank re Harry R. Abbott Memorial Library Fund		1,487.62
		<u>\$142,866.89</u>

LIABILITIES

Accounts Payable:

Fees and Expenses, 1934 Annual Board Meeting (Estimated)	1,300.00	
Sundry Accounts Payable	135.00	1,435.00

Trust Fund Reserve		1,487.62
Surplus, subject to realization of Loans to Ex-Service Men and Student		139,944.27
		<u>\$142,866.89</u>

Audited and approved,
THORNE, MULHOLLAND, HOWSON & MCPHERSON,
Chartered Accountants.

DISBURSEMENTS

Bonds Purchased, Dom. of Canada, 4½%, 1958, Par \$1,500.00	1,501.25
Portion of Interest transferred to Board Account	1,569.62
Collection Charges	30.96
Legal Expense	1.05
Interest and Exchange	1.15
	3,104.03
Cash in bank, April 30th, 1934	15.76
	\$ 3,119.79

HARRY R. ABBOTT MEMORIAL LIBRARY FUND
RECEIPTS AND DISBURSEMENTS

(Year ending April 30th, 1934)

RECEIPTS

Cash in bank, April 30th, 1933	1,432.55
Estate of Dorinda E. Tully	509.10
Bank Interest	48.57
	\$ 1,990.22

DISBURSEMENTS

University of Toronto Library	500.00
Library Book	2.60
	502.60
Cash in bank, April 30th, 1934	1,487.62
	\$ 1,990.22

DOMINION DENTAL COUNCIL

The problem of foreign students attending Canadian universities was discussed and the following resolution passed.

"That for these candidates to be eligible for the D.D.C. they must produce evidence of having obtained Canadian citizenship and of having resided in Canada for a period of two years prior to entering on the study of Dentistry."

The council approved the principle that the Faculty of Dentistry of the Universities of the agreeing Provinces be represented on this Council with full privileges but that at the present time the finances of the Council will not permit of any financial obligation toward the defraying of any

expenses or remuneration of these representatives.

The Council appointed a committee to study the whole question of examinations, and I would recommend that this Board appoint representatives to meet with that committee with the view to standardization of examinations and standards within Canada.

At the present time the D.D.C. graduates are on an academic equality in all Provinces, yet, at the same time, as some Provinces accept candidates to their provincial examinations on a lower standard, we would suggest that the D.D.C. communicate with these provinces with a view to advancing all requirements to enter any Province to the standard of the D.D.C.

RECEIPTS AND DISBURSEMENTS, GENERAL

(Year ending April 30th, 1934)

RECEIPTS

Cash on hand and in bank, April 30th, 1933	\$ 11,481.99
Licentiate Fees	9,509.00
University of Toronto:	
Students' Registration Fees, on account	1,860.00
Interest on Equity in School of Dentistry	2,500.00
Refund re Extra Mural Work	280.00
Transfer from Ex-Service Men's Special Loan Account of Portion of	
Interest Received	1,569.62
Registration Fees	110.00
Dominion Dental Council Fee	50.00
Fines	100.00
Bonds Sold, Ottawa Valley Power Co., 5½%, 1970, Par \$8,000	7,955.20
Interest on Bonds	736.16
Bank Interest	203.42
Refund of Expenses re Suit Withdrawn	15.40
	\$36,370.79

DISBURSEMENTS

Secretary-Treasurer, Salary	4,000.00
Office Assistance	25.00
Board and Committee Meeting, Fees and Expenses	4,793.30
Enforcing the Act	1,848.40
Nurses' Commencement	220.37
Nurses' Pins	71.50
Board Minutes	243.80
Expenses, Representatives to National Association of Dental Exam-	
iners	240.30
Annual Fee, National Association of Dental Examiners	25.00
Engrossing Certificates	20.10
Office Furniture and Equipment	13.50
Library and Museum	55.03
Portrait of Dean Secombe	320.00
Stationery, Printing and Office Supplies	235.43
Postage, Telephone and Telegraph	335.97
Audit Fee	135.00
Bonds Purchased, Dominion of Canada, 4½%, 1958 at Par	8,000.00
Collection Costs and Bank Charges	73.28
Entrance Sign	34.43
Extra Mural Service Expenses (see also under Grants)	934.46
Sundries	35.95
Grants:	
Extra Mural Honoraria, University of Toronto	1,095.00
Dental Research Fund, University of Toronto	500.00
Dentists' Legal Protective Association of Ontario	1,000.00
Faculty Contingent Fund	200.00
J. B. Willmott Scholarship	250.00
Cash on hand and in bank, April 30th, 1934	11,664.95
	\$ 36,370.79

EX-SERVICE MEN'S LOAN ACCOUNT

RECEIPTS AND DISBURSEMENTS

(Year ending April 30th, 1934)

RECEIPTS

Cash in bank, April 30th, 1933	698.82
Loans Repaid, Principal	426.35
Loans Repaid, Interest	193.00
Interest on Bonds	1,783.75
Bank Interest	17.87
	\$ 3,119.79

NATIONAL ASSOCIATION OF DENTAL EXAMINERS

The only discussion of vital interest to our Board was that some States demand that before a candidate sit for examination, he take out citizenship in that par-

ticular State. Your representative pointed out that this was a hardship. That, although we agree that citizenship be required before entering practice in any State, still we felt that any candidate ought to be allowed to sit for examination before taking out such citizenship.

DENTAL SOCIETIES

Essex County

The regular monthly meeting of the Essex County Dental Assistants' Association was held in the Park Apartments, Nov. 7th last, with the President, Miss Gladys McMaster, in the chair.

Reports were read by secretaries and treasurer, and Miss Audrey Dumouchelle (treasurer) handed in her resignation, owing to her other activities.

Several letters of business were read and discussed, after which the meeting was adjourned.

BESSIE LAMB, Cor. Sec.

Canadian Dental Hygiene Council

Minutes of Annual Meeting

The annual general meeting of the Canadian Dental Hygiene Council was held at 7 p.m., November 8th, 1934, at the Granite Club, Toronto. The chair was taken by the president, Mr. E. E. Reid.

Minutes

The minutes of the last annual meeting as printed and distributed were approved.

Reports

The following reports were presented and adopted:

Report of the Executive committee, by Dr. W. Cecil Trotter.

Report of the Quebec Mouth

Health Campaign, by Dr. Joseph Nolin.

Report of the Field Secretary—Dr. Harry S. Thomson.

Secretary's Report and Financial Statement—Dr. Edmund A. Grant.

Copies of these reports were distributed.

Achievements of Canadian Dental Hygiene Council Out- lined at Annual Meeting

The fine achievements of the Canadian Dental Hygiene Council in its efforts to raise the standard of public health in Canada by preventing the prevalence of dental disease were recounted at the annual meeting of that body at a dinner in the Granite Club.

The Council is not made up of dentists alone, as more than half its membership is of laymen interested in public health. Its aim is actually to lessen the need for dentists by the education of the Canadian people firstly in the proper nutrition of mothers and children so that the new generation will have better teeth than the present, and secondly how to prevent oral and dental disease.

President E. E. Reid, manager of the London Life Insurance Company, was in the chair, and among the guests were T. L. Church, M.P., Dr. Gordon P. Jackson, M.O.H.,

Toronto; Dr. Gordon Bates, and representatives of various social service organizations, including Miss Charlotte Whitton, Canadian Council of Child Welfare; Miss Jean Browne, Canadian Red Cross; Miss E. M. Cryderman, Victorian Order of Nurses; Mrs. Clark Steele, Home and School Council; Miss D. McDermid, Women's Institutes; Mrs. J. W. Bundy, Toronto Local Council of Women, and Miss Gould, Child Welfare Council, Toronto.

Improve Health

Dr. Harry S. Thomson, Field Secretary of the Council, telling of his organization work throughout the Canadian provinces, said the movement for spreading the knowledge of mouth hygiene and tooth preservation was of great value in improving the general health of the Canadian people. Its benefits were recognized by the life insurance officers association which made the Dental Hygiene Council a grant of \$8,000 last year, and by the Federal Government, which provided \$750. In every province organization and educational campaigns had been carried out and support won from service clubs and women's associations in teaching the public the relationship of diet to good teeth in children. Dental decay had been proved to depend not only on age, sex and health, but also on the nutritional status of the individual.

Four Decay Reasons

Teeth decayed for four reasons. First, lack of certain mineral salts in the body at the time the teeth were being formed; second, because of some glandular derangement; third, lack of care; and fourth, heredity.

Dr. R. E. Wodehouse, Deputy Minister of the Department of Pensions and National Health, Ottawa, told of the tremendous field his department covered in Canada, employing some 1,200 doctors and 400 dentists, spending \$52,000,000

annually, looking after 78,000 pensioners and 262,000 dependents. He described the efforts to enforce the Pure Food and Drug Act, and the immense welfare work done.

Dr. Grant Fleming, Director of the Department of Public Health and Preventive Medicine, McGill University, discussed "Health and the Depression." He pointed out that Ontario alone among the provinces of Canada provided free medical attendance for the unemployed.

The mortality rate in Canada in the past four years had declined 10 per cent. due, he thought, to the better health effort. There had been no uncontrollable epidemic disease visiting the country in the last few years.

Tuberculosis In Retreat

"Tuberculosis is today definitely in retreat," he claimed. "The success in combatting it was due to the value of health education. There were, he said, fewer hungry people in Canada since the depression than before it, due to education in the purchasing of proper food and its use.

Health meant not only freedom from disease but the storing up of vitality for the future, especially in children, and if poverty and unemployment meant that the dental health of children was neglected the normal health development of the children of Canada would be affected.

The officers were re-elected for the ensuing year, following a reading of the financial report by Dr. E. A. Grant.

Montreal Dental Assistants' Association

Montreal Dental Assistants' Association held their first meeting of the season in the new club rooms, at the Medical Arts Bldg., on Wednesday, September 26th, 1934, with

Dr. Victor as guest-speaker. Dr. Jekill requested Miss R. Ratner, founder of the association and publicity chairman to open the meeting.

Miss Ratner then welcomed the assembled members. She also outlined briefly the history of the eight years' existence of the association, of the great progress made, and the possibility of still greater service in future to the community at large and the dental profession in particular.

Dr. V. Jekill in his address stressed the value of increasing the aesthetic qualities of dental restoration, a practical demonstration was given in which the technique for staining porcelain teeth with mineral stains was applied, the purpose being to impress the dental assistants with the relative simplicity of this phase of prosthetic procedure.

The address and informal discussion was followed by a social gathering in Dr. Jekill's suite. Miss W. Hyde presided and gave a vote of thanks to the guests of the evening, also thanked Dr. Jekill for the refreshments served at his own expense, for which all members feel grateful. Miss G. Robinson, treasurer, represented the Study Club. Several dentists were present, also Dr. E. T. Bourke, vice-president Montreal Dental Club.

Dr. A. L. Walsh, Dean Dental Faculty McGill University, was the guest-speaker Wednesday, October 31st, 1934.

Dental Nurses

The Dental Nurses Alumnae Association meeting, with Miss Adèle Cameron presiding, added interest to its session by an initiation ceremony in which the class of 1934 put the nurses-in-training through their paces. Refreshments were a concluding item of the program.

Eastern Ontario Dental Association

The 57th annual meeting of the Eastern Ontario Dental Association was held at Brockville, Ontario. The morning was spent by the members at the operating room and table clinic held at the Ontario Hospital and conducted by Dr. Jarman, of Toronto; Dr. A. A. Cameron, Ottawa; Dr. I. W. Hamilton, Ottawa; Dr. S. W. Bradley, Ottawa; Dr. Greave, Toronto, and Dr. A. B. Morrow, Ottawa.

At the business meeting, it was decided to hold the 1935 annual convention in Ottawa next fall, with the final date to be selected by the executive.

Officers for the ensuing year were elected as follows: President, Dr. S. W. Bradley, Ottawa; vice-president, Dr. D. H. Mallory, Brockville; secretary-treasurer, Dr. G. O. Hutchison, Ottawa; auditors, Dr. W. C. McCartney, Dr. H. E. Armstrong, Ottawa; program committee, Dr. A. E. Shaver, Brockville; Dr. J. W. Ault, Prescott; Dr. H. A. Stewart, Kingston; Dr. Lawrence Martin, Ottawa; Dr. R. Robertson, Cornwall.

DENTAL NOTES

More than 1,000 persons in urgent need of dental care in York township are prevented from receiving treatment because each dentist is only allowed approximately \$20 a month for relief work by the government. In many cases doctors have ordered persons on relief to have their teeth extracted to end sickness or avoid extreme pain, but such cases are unable to receive relief from their suffering because the government allowance is not sufficient.

Announces Opening

Dr. George A. Morgan announces the opening of his professional offices, Suite 26, Royal Bank Building, 2 Bloor St. East, Toronto. Practice limited to Dental Roentgenology, Diagnosis, Exodontia.

Book Review

The latest review copy of the Index to Dental Periodical Literature is for the years 1906-1910. This is the twelfth volume to appear and completes the series from 1839 to 1930.

Grant Fleming of McGill University says the health of the public is better since the slump because of less alcohol and less over-eating and a much better diet.

Dr. Springbett, of Hanna, Alta., opened a Dental Office in Wainwright, on October 10th, 1934.

Dr. George W. Smith died at Waterford, Ont., October 26, 1934.

A New Idea in Scholarships

A foundation scholarship entitling to free education is to be awarded annually by the Royal Dental Hospital School of England to a student, educated at Epsom College, who has passed from there the first B.D.S. Lond. Examination, with the intention of taking this degree.

The Acute Alveolar Abscess With a Sinus

It is remarkable how limited in scope may a dentist's practice become. Even recent graduates may become afraid to undertake operations in their own offices which were performed by them in the dental infirmary. The excuse is that such operations are not a success, when as a matter of fact the difficulty is the man has lost his courage and dare not see blood. The following history will convey our idea.

A child 10 or 12 years of age had malocclusion corrected and about two years after the operation was completed the pulp died in an upper central incisor with the usual history of infection, pain, swelling, acute abscess, and the subsequent bursting of it over the affected tooth. The orthodontist sent the patient to the family dentist, who in turn sent her to an exodontist to do some kind of surgery. He advised the extraction of the tooth. The child's parents did not wish that the tooth be extracted and sent her for other expert opinion.

Such acute cases are the simplest form of periodontal infection a dentist has to deal with. While the case is still in the acute stage it is

the time to apply treatment. The crown should be washed through with a saline solution after the canal has been cleaned out through the sinus, followed with a dressing of oil of cloves. If need be one or two more injections may be applied and the root sterilized and filled. In no case should the canal be left open. Such cases attacked while in an active state are most amenable to treatment.

Facial Paralysis

Mr. Kennion, F.R.C.S., who is attached as Hon. Consultant to the Liverpool Dental Hospital, in the course of a contribution to the LANCET on the Borderline of Dental Surgery, has something to say on facial paralysis as a possible sequence of a dental operation. In a case of Bell's palsy that followed an injection of novocain for an upper molar, the action of the drug was at first considered the cause of the complete facial paralysis developing within two days. But the improbability that the novocain could reach the seventh nerve from this situation, and the similarity to a case of actual pressure paralysis, leads the author to suggest that the tension to which the nerve as it crosses the neck of the mandible is put during treatment of the molar teeth, and a concurrent finger or thumb grip on the vertical ramus, may conceivably afford the requisite explanation. The pain produced may mistakably be attributed to the insufficient penetration of the injection and cause still greater force to be used. The full effect of the reaction may not be felt for three or four days and would be aggravated by the muscle's pull on the healthy side. The explanation is ingenious but subject to question. It would be very unusual for a dentist to grip the ascending

ramus and would be difficult to do. Mr. Kennion also states that a paralysis of the facial nerve may occur by direct diffusion after a regional mandibular injection. While some fibres of the facial nerve might be caught by a misplaced long buccal injection, it is difficult to see how the most erratic mandibular injection could reach the facial nerve.

The Diet Racket

For centuries, there was little said about diet. The ancients concerned themselves almost not at all about the kind of food they had; their chief problem was to get enough of it. And many of them even with a much smaller population than we now have practically starved for lack of sufficient food. When the problem of obtaining an adequate supply of food for the human race was more nearly solved, it soon became apparent that it really mattered what kind of food a man had. Then began that orgy of dieting that has nearly threatened us with disaster. It seems to be one of the propensities of human nature to go to extremes in any activity of our lives that has to do with our welfare.

The study of diet is a reasonable, a sensible and an altogether proper thing, but alas and alack, when our advertising dietitians got to going, they proceeded to ends that were neither reasonable nor sensible. First, it was calories, and how they did play up that word calory! Every bit of food was measured in relation to its production of heat units, and the wonder is that with this theory riding high, poor suffering humanity was not frozen to death from sheer fright of the lack of calories in the food.

From this, we ran the gamut all down the line till we struck vitamins, and then we played that

hard. Not that any one can say precisely what a vitamin is or analyze it so that the average individual can understand it, or use it in his physical economy. But it had a sonorous sound and it caught the imagination.

No one will argue that the thing called a calory or a vitamin is a myth, or that it is without significance. Much has been learned by our scientists about the effect of diet on the individual, but there was something that the scientists seemed to forget. They forgot that all individuals are not alike in their reactions to the various food materials, any more than they are to the action of certain drugs. A cut-and dried diet is no more logical for all individuals than is a cut-and-dried remedy for every ailment. There is no such thing as an exact science in the administration of food or the administration of drugs. While the remark frequently quoted is hardly true that "what is one man's food is another man's poison," the fact remains that no two individuals react in precisely the same way either to food or to drugs.

This does not mean that there are not certain fundamental effects in diet that must be recognized. If a man persists in eating half a dozen eggs for his breakfast every morning, it is not difficult to predict what will happen to that man. But even here we are not always so sure of our ground. The demonstration of Clara Davis in her experiment on the self-selected diet for children, published in *THE JOURNAL*, June, 1927, June, 1931, and April, 1934, was revelation worth considering. It put to shame many of the iron clad rules that had been sagely formulated in connection with diet especially for children, and pointed the way to greater sanity in the selection of individual diets. The lesson it taught, and the lesson we all need

to learn, is that if we have any sense of individual acumen or responsibility, we shall each map out for himself, as soon as we reach the age of accountability or even earlier, the kind of regimen that is best suited to our individual needs, and follow this to the exclusion of all the various dietary fads that are foisted on us by the propaganda of the commercial interests. It will usually be found that the more sensible we become in our diet, the simpler will be the diet. If we have any intelligence, we shall soon learn the kind of food that best suits our individual needs, and usually it will be found that the foods most adaptable to our requirements are those close to nature and not complicated with too much cost. If fruit and a carbohydrate best fit your requirement for breakfast, why not use a simple raw or native fruit and bread and milk rather than tickle the appetite with expensive jam and the costly prepared breakfast foods?

The exploitation of some of our prepared foods has degenerated into a regular racket, and it is costing the consumer a vast amount of money and serving a much less beneficial purpose in the human economy than the simpler and more nearly native foods. Usually, the man who is the highest liver is the shortest liver. Nature has a way of rebelling against too much concentration or too much artificiality in our food, and we shall do well to cultivate the simple life. Above all things, we should each study his individual needs and adapt ourselves to the regimen that has been proved by experience and observation to be the one best suited for the individual case.

A little intelligence and a little study will teach us more about our own requirements than all of the theorizing of the scientists and the dietitians.—*Editorial*—A. D. A.

Out on Indian Census

Ottawa, Oct. 20.—An epic of the northern wilds has just been issued by the government in the form of a translation from the report written in French by Fr. J. Emile Saindon, who was asked in 1931 to make a census of the James Bay Indians. Father Saindon's story follows:

"The canoe trip covers 600 miles along the shore, which means a fight with the elements: rain, snow, winds, ice, heavy fogs, etc. Furthermore, we have to cross three bad spots. When it is stormy the trip is very dangerous. Three Indians from Eastmain were drowned last fall while crossing Cape Hope Bay.

"Only once did we find ourselves in a storm of that kind; this was in Hannah Bay. It looked as if the sea was going to swallow us. The canoe was rising on the crest of the waves; a moment later it was plunging into the trough. My guide gave proofs of his marvellous skill in dodging and cutting through the waves. Our canoe had air-tight compartments; it measured 20 feet in length and was covered with a very strong waterproof fabric. In order to prevent any accidental delay, I carried two outboard motors in case one would fail.

Artless as Children

"We suffered a delay of about

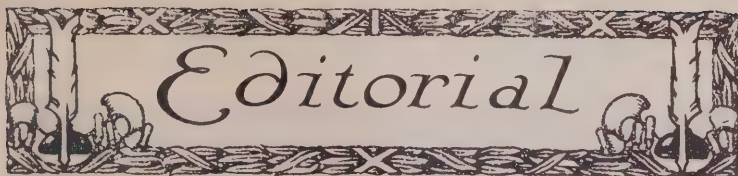
five days on account of bad weather, rain, wind and heavy fogs . .

"The first locality I visited was Eastmain, located 190 miles north-east of Moose Factory. All the families were at the trading post, except three, who remained 250 miles away around Eastmain river, where they could find food. A trip of that length for the purpose of taking the census of these families was, of course, out of the question, particularly since I was not sure of being able to locate them. In the summertime the Indians move from one lake to the other in order to catch fish.

"The Indians living in the village of Eastmain are real primitives and artless like children.

"I worked hard for three days. My activities were not limited to the duties of a census officer; I also had to play doctor. Acting as a physician against my own will, I had to sit at the desk, look the patients over and prescribe for them.

"I found myself all of a sudden a dentist, and had to extract teeth for several hours. I had brought with me some instruments, a dental syringe, and liquid anaesthetic. I believe I have made quite a success in painless extraction, painless both for me and my patients. I must have performed 100 extractions all told. The few lessons in dentistry I had taken in Montreal stood me in good stead."



Editor: A. E. WEBSTER, M.D., D.D.S., Toronto, Canada.

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VOL. XLVI

TORONTO, DECEMBER, 1934

NO. 12

The Value of Good Will In a Dental Practice

● The value of good will in a dental practice depends upon many factors, the chief of which would be the length of time the practice has been established, the personality of the seller and the particular kind of people to be dealt with and whether the population is transient or permanent. The number of dentists to the population is also an important factor. Good will is more valuable in smaller towns where there is only one dentist than in large cities where there are hundreds. The value of a practice is enhanced by the proper introduction of the newcomer first as a partner, then as an assistant so that the change from the owner to the purchaser may be done over a period of months. The cash value of a practice may be calculated from the above factors plus one-third of the total receipts for three years.



COLONEL W. G. THOMPSON, D.D.S.

Director of Dental Services, Ontario.

CORRESPONDENCE

November 7, 1934.

Dr. A. E. Webster,
Toronto, Ontario.

Dear Dr. Webster,—

Enclosed herewith are chart, X-Ray films, X-Ray technician report on films and communication from patient concerning his condition and diet, the last of which I requested on account of the interval since I saw him. This data is taken from the case of a patient who presented to me last July. On account of various angles which present themselves for consideration in his case, I am at a loss to know what to advise as most advantageous for the patient, and will be grateful indeed for your opinion at your convenience.

The patient, a male of 27 years, weighing about 120 lbs., is about 5 feet two or three inches tall, is employed indoors as a window decorator in a large downtown Toronto department store. In December of last year, 1933, he had a surgical operation for gastric and duodenal conditions as indicated in attached letter. His diet had been altered previously and following that, but it would appear now that he is at liberty to carry on as he chooses in that respect, and I have as a result provided him with Dr. Husband's Diet Outline to assist him from a dental point of view.

The X-Ray technician's report regarding the bone in the apical regions of the roots of the teeth seems favorable with the exception of the upper right central incisor. In the pulp of many of the teeth, however, the presence of calcific deposits is quite obvious.

There do not seem to be any irregularities of the arches of any significance as I recall his case, and

you will note from the chart that there are existing thirty definitely established carious locations on his teeth, as well as thirteen questionable areas as revealed by examination in July, 1934.

Although it is nearly four months since I made the examination and inquiries, I think that I am correct in saying that there are a great many fillings in the teeth, and that a great many of the cavities are around old fillings, that his own personal attention to his teeth is good and that he presented regularly for dental attention. His communication somewhat verifies this.

Some of the angles of the case which I think should be considered and determined before deciding on a procedure are:

On account of the large number of cavities present and the physical and nervous drain entailed for the patient in having them done thoroughly, (involving the principles of extension for prevention and other principles of thorough cavity preparation) and considering the shock and physical drain to which the patient was subjected about a year ago, would it be wise out of consideration of his general health to embark on the program of operative dentistry which presents itself?

Will an irritation result in the digestive system as a result of the ulcers having occurred or from the surgical removal of them which will prevail in the future and cause a saliva of high mucin content which might have a destructive effect on the gingival areas of the teeth by holding saliva in retention there?

From the history of the case is it to be anticipated that the patient

might be required, in the future, to take a diet of high carbohydrate content which might have the effect of destroying his teeth?

Is it sufficiently well established in medical circles that the ulcers referred to originate from infection to warrant the removal of the upper central incisor which shows a bone change in the opinion of the X-Ray technician?

Would you consider the pulp stones significant of low grade infection of sufficient proportions to contribute to the formation of the ulcers?

From the financial side of the question—with the presence of the pulp stones and likely hypersensitiveness of the pulp tissue as well as the degenerative nature of it, which will, I expect, demand additional time being required to do this work, would the extensive cutting and excavating entailed in thorough cavity procedure jeopardize the vitality of pulp and hasten further degeneration and loss of the teeth before the patient would have derived the benefit of the investment entailed, providing gold inlays were used in compound fillings and also in the gingival cavities in the anterior teeth where it is difficult to preserve a dry field to insert silicate. This case, I anticipate, will be completed in Toronto at the fees required there.

Would you kindly survey this material at your convenience, Dr. Webster, and advise me what you feel would be the most advantageous procedure for the patient to follow, judging from what I have submitted. I realize that there are probably many other factors which would help you to pass an opinion, and I will make an effort to secure them if you suggest.

Hoping to hear from you at your leisure, and wishing you good health and continued success, I remain,

Yours very respectfully,

X-RAY REPORT

The Teeth

UPPER LEFT

The first bicuspid, canine and lateral incisor show cavities in their crowns which appear to approach closely to the pulp chambers. These teeth are not necessarily non-vital, and there is no evidence of bone change about their roots.

The central incisor is devitalized, but does not show definite evidence of bone change.

UPPER RIGHT

The central incisor contains no root canal filling, but is probably devitalized and shows suspicious bone change about its root.

LOWER LEFT

The third molar is unerupted, but not impacted.

LOWER RIGHT

The third molar is unerupted and impacted. The crowns of the remaining teeth show numerous small cavities but the pulps appear vital, and there is no evidence of any bone change.

Dear Doctor,—

In reply to your letter of the 22nd, the pathologist's report diagnosed my trouble as chronic gastritis and fibrosed appendix, the surgeon finding ulcers on the duodenum and in the pyloric end of the stomach. I was operated on on December 1st, 1933.

Previous to my operation I had been on milk soups, etc., diet, for various intervals, as also after my operation. At present there are no restrictions, for I am allowed everything.

My last dental work was done about two years ago and everything declared O.K. at that time.

I hope this information will be of some help to you, and I will be looking for the "verdict" shortly.

Sincerely yours,

November 15, 1934.

Dr. H. J. Fahey:

In reply to your letter of the 7th inst., I am submitting the following answers:

1. Regarding the extension for prevention, and other high ideals of cavity preparation, I would suggest that they be disregarded in this case and temporary measure be adopted in their place. These would suffice until such time as the patient's health improves. From the description of the patient (who is 6 to 10 lbs. under weight), I believe root canal therapy would be detrimental at this time.

2. The irritation of the stomach wall would not affect the concentration of mucin in the saliva because the coeliac plexus supplies the stomach wall, while the mucous glands of the mouth are supplied indirectly by fibres from the superior cervical ganglion.

3. Unless there is a recurrence of the ulcers, I see no reason why the patient would have to be placed on a diet of high carbohydrate content.

4. In "Hughes Practice of Medicine," infection is not listed among the etiological factors in cases of duodenal and gastric ulcers so that the removal of the upper right central incisor is not warranted from this standpoint.

5. Since infection is not considered a cause of gastric ulcers, the pulp stones do not carry any significance in relation to the condition of the patient.

6. Proper cavity preparation and the use of suitable filling material would not jeopardize the vitality of the pulp.

In conclusion, I would suggest a complete medical examination from the standpoint of foci of infection. Price describes a case in which the pulp stones were a result of general infection and later acted as a focus. Also the medical examination would

be of value in the determination of the extent and type of operative procedure to be undertaken.

Hoping these suggestions may be of service to you, I remain,

Sincerely yours,

October 26th, 1934.

Editor, Dominion Dental Journal.

Dear Sir:—I notice in addressing the Academy of Dentistry in Toronto Dr. Gallie of Chicago advises against any tendency to socialism in Dentistry.

In an interview with R. E. Knowles, Dr. Gallie says he is located in an office building with 650 professional men.

I wonder if he ever had to practice where teeth are removed for fifty cents, and then asked to allow that charge on the ten or fifteen dollar set? I wonder if men like Gallie think little of their obligation to those in the profession not so well situated? What are they doing to make it possible for the dentists in cheap places to get better fees and do better work?

I do not know what Dr. Gallie thinks would be socialized dental practice, but I have a plan myself that would help to get rid of many of the things that are drastically in need of remedy now.

The worst thing is cut throat fees, where one man has a war on and lowers them below cost to beat his neighbour. The next worst is free examination and consultation, worth little more than that, and liable to result in bridges instead of extractions, and does not add equipment to the office needed for decent examinations.

I would take a town of six to ten thousand with six to ten dentists and put them all in one clinic, with an operating room each, but one X-ray, one gas machine, and special equipment; one business office, one phone sys-

tem, and mutual sharing of costs and receipts, with a basic hour rate salary and commission on or over some figure.

The clinic would be open day and night and work in shifts as per demand. If they were short of work go on part time, equally. No other dentist could go into the town unless there was need and consent, and he must go in the clinic. Each man would hold stock and there would be a limit both ways as to what he could buy of it. His present equipment could be used or turned in on stock. The clinic could really carry on the needed educational program. Fees could be scaled as to the quality of work. Each man could specialize within limits, and be available for consultation.

At present men are losing homes and offices through trying to compete with 50c. work. Even physicians are taking out teeth. They should be asked to leave that to the dentists where they are available.

Clinics in cities could serve districts. Patients could select their operator as at present. A business office would collect all fees, and if they were not paid as promised

they could go after them. This plan would be hard to apply if there was one man alone in a village, but the fact that there were clinics in the cities would help him. The clinics would be controlled by the dentists themselves, and owning stock they could move from place to place by an exchange of stock. The people would get the best possible service at the lowest possible fee to pay expenses and decent wages. Those wanting special high class work would pay accordingly.

A full outline is not possible here. I would like to see this tried out in two or three places. It is economic, it makes the best result possible and makes a real profession possible. It costs the taxpayer nothing.

I think Dr. Gallie is lacking in experience. He may know a large city. Did he ever have a patient pay him a two dollar fee and come and tell him that Dr. Smith did the same thing for 50c., and he would not have Gallie do any more for him as he was too dear?

Yours truly,

H. O. D.

OBITUARY

Dr. V. J. Levasseur Laid to Rest at St. Johns

St. Johns, Que., August 20.—People from all walks of life attended the funeral of Dr. V. J. Levasseur, prominent local dentist, who died at the St. Johns Hospital.

Dr. Mathieson Passes Suddenly

In the sudden death of Dr. William Alexander Mathieson at his residence, 169 Gough Avenue,

the Danforth district lost one of its best known dentists. Although he had been in ill-health for more than a year, Dr. Mathieson had continued practice part time and had been in his office as recently as Tuesday. His condition was not considered serious and his sudden death early last evening was a shock to his many friends. Dr. Mathieson was prominent in the city in Masonic circles. He was in his fifty-third year.

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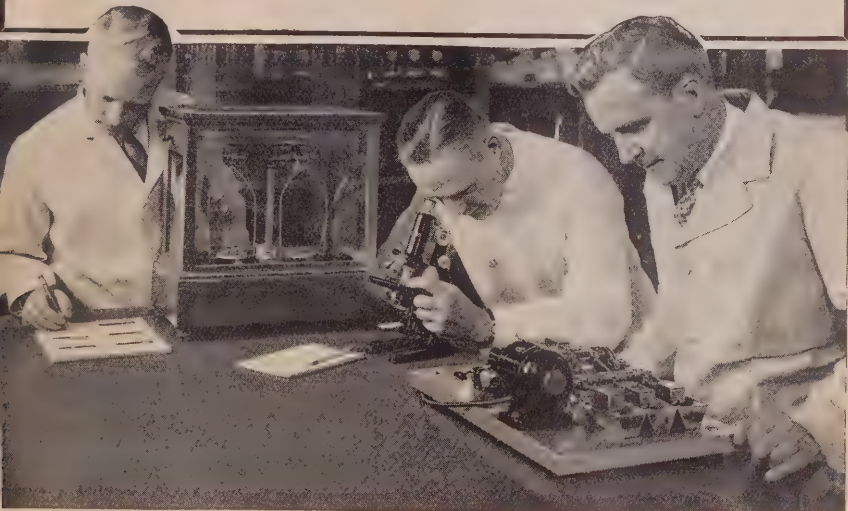
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"B"	.	.	.	.	.	0.77
"C"	.	.	.	.	.	2.70
"D"	.	.	.	.	.	2.90
"E"	.	.	.	.	.	3.36
"F"	.	.	.	.	.	3.80
"G"	.	.	.	.	.	3.80
"H"	.	.	.	.	.	4.10
"I"	.	.	.	.	.	4.36
"J"	.	.	.	.	.	4.60
"K"	.	.	.	.	.	5.50
"L"	.	.	.	.	.	5.80
"M"	.	.	.	.	.	6.60
"N"	.	.	.	.	.	8.00
"O"	.	.	.	.	.	10.18

TOOTH POWDER

"A"						3.15
"B"	.	.	.	.	.	3.90
"C"	.	.	.	.	.	4.60
"D"	.	.	.	.	.	4.80
"E"	.	.	.	.	.	6.30
Chalk—U.S.P.	.	.	.	.	.	6.30

NOTE: Each tooth paste and powder was submitted to six tests. The average results are recorded.

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